The Medical Times

VOL. XXIX. NEW YORK, JANUARY, 1901. No. 1.

ORIGINAL ARTICLES.

THE MOUNT BLEYER ELECTRO-ARC-CHROMOLUMES FOR GENERATING COLORED LIGHT AS AN ADJUNCT TO THE REGULAR TREATMENT OF TUBERCULOSIS.

BY J. MOUNT BLEYER, M.D., F.R.A.M.S., LL.D., NEW YORK.

SINCE my experiments and discovery in 1894 that light has the power of traversing through the chest wall and other tissues of the body—both in health and disease, and its adoption by me for the treatment of tuberculosis of the lungs—I find that others have followed in my beaten track and now make claims to it as original research—I beg to say at this opportune moment that my experimental work antedates them. I started this work in 1889.

In 1896 I published in the *New York Medical Journal*, New York, some important fore-running remarks upon my undertakings in that line, and as I say, gave out several hints, and since then have made many important chemical and physiological tests and as to their power in Therapeutics.

Tuberculosis interested me mostly, so I dropped from my list of research many experiments which belong to other domains of medicine and now leave to others to fulfill its many promises.

Perhaps, amongst those who already have shown great successful fruits from his labor is Professor Finsen of Copenhagen. This institute for the treatment of skin tuberculosis by means of these chemical rays of light has already gained for itself a national reputation.

A paper of special value has been read and published before the American Congress on Tubeculosis, February 22, 1900, and in *The Sanitarium*, April, 1900, which dealt with many scientific facts. I refer those, therefore, who desire more detail account to the Transactions of that society and its publications.

My specially constructed electric-arc-light lamps for generating violet rays of light (color light or chemical rays) have undergone many changes since my early experiments.

I found that concentration of light meant a great factor, and therefore more generating power was a necessity. This gave the parallel rays much more penetrating capacity for dense tissues. I therefore reconstructed my older models and now use the apparatuses as illustrated.

Next came the question of simplicity of construction and management. I have succeeded in this undertaking after many trials. These illustrations show several types in use by me in my daily clinical practice, which proved most satisfactory for results. The types of lamps are capable of generating rays of the highest quality—besides the power of generation.

This test of penetration was made by me first several years ago. I now find that some one else makes a new claim to this—so to say—a rediscovery.

I showed that concentrated rays of light as produced from an electric-arc lamp of high power pass through the solid tissues as well as bone, by allowing these rays to fall directly upon the chest wall, and printing, as a proof of this fact, from a negative plate or film upon a sensitive plate, any subject matter thereon in less than fifteen minutes. This test, as I say, has again been confirmed by Dr. J. W. Kime of Fort Dodge, and he differs in the method employed by using sunlight concentrated instead of the electric arc.

As far as my clinical record goes, I can only say here as a convincing remark, and besides that is out of place, as it is not a report on cases, but only a description of my light generators of different types. Let me say, however, that I have employed with most successful issue in sixty cases of tuberculosis of the lungs these colored rays of light as an adjunct to the general treatment. I find that electro-arc solarization can claim for itself a rank as one of the greatest tonics. There are many scientific facts which need study regarding the chemical and physiological action upon the system, still, several which I already have studied seem to fill the long wants in the treatment of this disease.

Of these sixty cases I can report forty as cured, and in twenty the disease has been arrested to that extent as far as the pathological changes present when they came under treatment would admit.

I am in full belief from my experience now that as an adjunct light rays in tuberculosis pay a leading rôle. I want to stand upon these remarks as a future record.

The administration of these rays must be understood from the very first—that dosage, and how given, plays an important part—and no one should attempt to use them homeopathically in any manner. Long exposure is one of the prime rules; nothing short of a half hour over the nude surface, however—a longer time is preferable for each sitting—over the selected area.

A simple description of these electro-arc generators of these chrom-rays and the method of employing them is essential. These lamps assume the name I have given them—"electro-arc chromolumes"—as they are the sole producers of these specific colored rays. Their construction is so simple that their management does not require any study. They are all capable of giving from 5,000 to 25,000 candle power. This high candle power or efficiency is dependent upon the amount of current at one's disposal. There is no difficulty in getting any amount of electric current for their operation. All that is necessary is to have the room wired with an exact thickness of carrying efficiency and then a transformer of exact size, which any company is always ready to furnish on application. My own plant is furnished with 40 amperes current transformer, and the lamps so constructed that either more or less current does not affect them. By this arrangement any one can change his installation according to his work.

The lamps for generating these chemical rays, each one has fitted to it one rheostat, and therefore more than one generating lamp can be set in operation in the same room or elsewhere, and at the same time. Also, they can be so installed to operate on a single rheostat for special selection of any lamp desired if more than one is in use.

There are several different types of my lamps now on the market, and are made suitable for the different electric currents—for the high tension and the low tension (alternating or the Edison direct current)—and

this was a most necessary point to be considered. For the high tension current I constructed a lamp which operates both automatically and as a hand-feed. This lamp, in order to get a steady and pure light spot, is provided with a plano-convex short-focus lens, a moving gear for adjusting the focal lines—a most important device this adjustment—as the focal parallel lines can be changed to the exact spot wanted. The focal spot ranges from half inch to thirty inches of concentration. By this means any part of the apex or other portion of the direct anatomy can be treated accordingly. For the low tension (Edison direct current) the lamps are different; no lenses are made use of. The focal lines are created by a Mangin's mirror on the principle of the search-light, and has the same advantages as the other lamps.

A screen accompanies every electro-arc chromolume. This piece of additional appartus is for the purpose of screening the heat rays emitted during the operation of the lamp, upon a selected surface with a high concentration of the light beam, for any length of time. It consists of blue glass cut in strips set in a framework, on a movable stand, capable of many changes for position.

All these generating lamps are mounted on stands which give any angle of motion suitable for application. The entire lamp, screen, etc., can be moved over any area of the operating chamber. They have long cables attached to the lamps coming from the electric feeder of the installation.

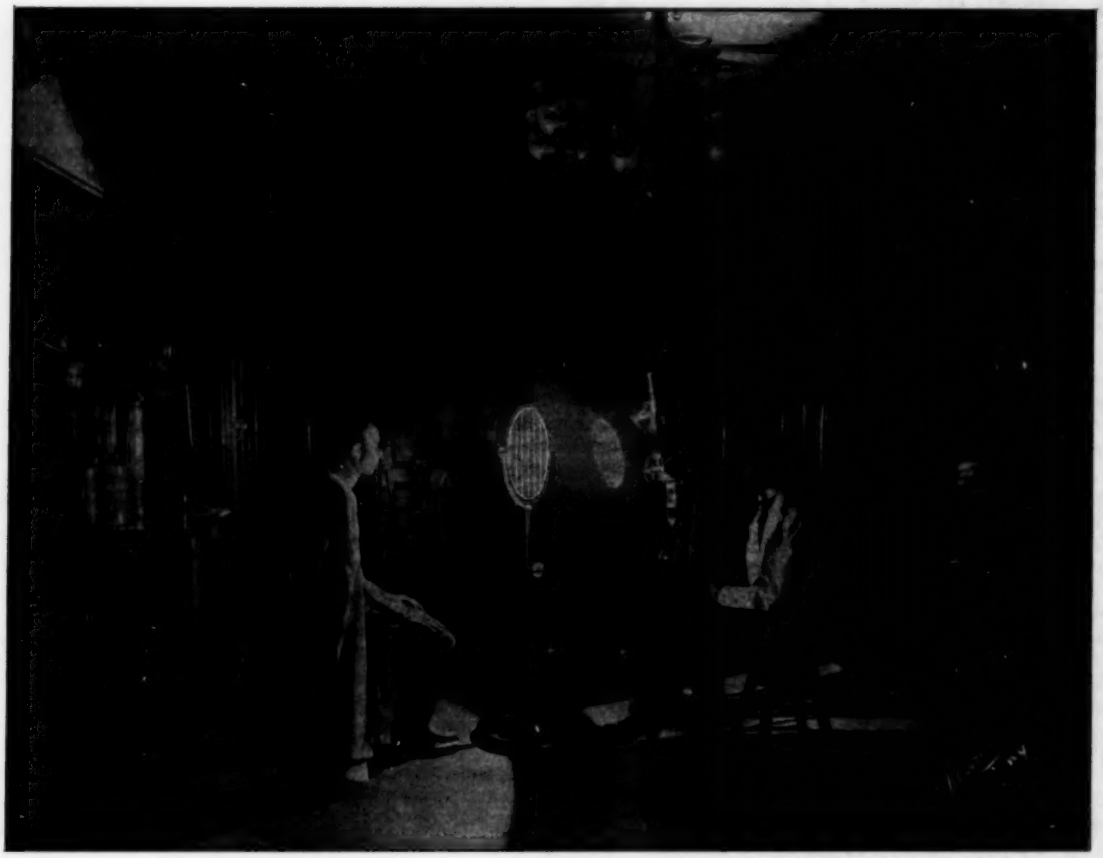
I have in use several of these types and each one has its own particular value.

The new types which I illustrate are adaptable for all purposes—one can get either a concentrated beam from one-half to thirty or more inches. These illustrations speak for themselves.

I present a photo by way of illustration of the chromolume in full operation taken from my earliest experimental work in 1894. This gives an idea how the light is applied to tuberculous patients.

Let me say in concluding this short article on my chromolumes to those who will follow up this method of photo-therapeutics as an adjunct to the general treatment that they will be most amply repaid for the trial. I wish to say it now openly and what I say I am willing to stand by, that in certain picked cases of tuberculosis there is no rememdy equal to light as produced by the electro-arc or direct solarization by the sun where it can be gotten. With light, hygienic food, fresh air, exercise and such suitable remedies which are indicated according to the case in hand, 75 per cent. of tuberculous patients are curable, that is, curable to that extent according to the lesion or pathological changes already present at the time they come under treatment.

THE MOUNT BLEVER



Spread-Light Electro-Arc Chromolume in Full Operation in my Laboratory. This apparatus is made use of for flooding the Tuberculous with Violet Rays.

Of course we all understand that pathological conditions which have in certain stages of this disease left their markings cannot be changed. We cannot give the patient any more breathing capacity after certain conditions become, so to say, stationary. If each case, however, is taken upon its own merits and treated accordingly, only such promises can be made to him often according to his state. There are, however, forms of tuberculosis which can be thoroughly cured, and in a large majority or percentage of them if they present themselves at an early stage are curable by this adjunct treatment within from two to three months.

One important factor must always be remembered by this method—that much time should be allotted to each case—no less than an hourly sitting daily.

This phototherapy is most admirably adaptable for sanitarium and hospital purposes.

For years I have adopted a system for generating these colored rays of light also where they are practical by the construction of solariums—these of course are more suitable to a country than city use, also in a climate where sunlight is in abundance.

These solariums must be constructed on plans which provide for all contingent and important necessities—heating, ventilating, cooling, glassing by colored glass and intermixed with white glass, proper exposure, etc.—are some of the principles embodied with their successful employment. Also exposure of the patient plays an important part in the treatment. The entire body should be exposed to this light for at least two hours or more daily.

The illustrations appended herein show several of them in private use which I had built for such cases after my own plans. They can be constructed according to the size and style of architecture and his pecuniary likes.

I know of no remedy that can touch the general tonic effects as by the application of this method in our entire category of remedies.

These electro-arc chromolumes are manufactured from my own designs by Charles J. Bogue, No. 213 Center street, New York City, and the Universal Electric-Stage Lighting Company, 842 Broadway New York City.

INSANITY IN ITS RELATION TO CRIME.

BY CHANCEY ADAMS, M.D., CONCORD, N. H.

PART II.

ALTHOUGH epileptic insanity is not necessarily an accompaniment of epilepsy, perhaps, as some writers claim, appearing only in about 10 per cent., it is yet frequent enough to justify the classification as such and to demonstrate its importance in the consideration of degenerate psychosis. It is a well-known characteristic of motor-epilepsy that sooner or later there develops psychoses of varied extent sufficient to place the subject in the irresponsible class of unfortunates, and eventually to lead to degeneracy of moral and intellectual capacity. That underneath all manifestations there lurks the subtle influence of hereditary degeneration is now universally recognized and proven beyond a reasonable doubt. The rule of transformation in heredity is nowhere better illustrated than in this disease. Epilepsy appearing in a subject of this generation does not necessarily mean that the same condition will appear in the next, but some form of degeneracy will show itself, if not in the next generation, somewhere along the line. It may take the form of a neurosis simply, drunkenness, vagabondage, instinctive criminality, or some type of insanity, perhaps epilepsy itself. The relation between epilepsy and instinctive criminality is regarded as very close. Its frequent development among the insane and criminal classes furnishes increased weight to this opinion. Its relation to idiocy is of marked importance in this connection. Havelock Ellis says in his book, *The Criminal:* "Epilepsy, to which so much importance has of late been attached, in connection with criminality, is notoriously common among idiots, being found among nearly 25 per cent." Lombroso has observed that in those regions of Italy where most epileptics are found, there also are found the greatest number of criminals. The medico-legal importance of epileptic insanity can in no way be more forcibly expressed than in the words of that eminent alienist, Clouston, who says: "There is no form of insanity that, outside of asylums, is more frequently the cause of murders, except, perhaps, the alcoholic."

In those cases of motor-epilepsy in which insanity proper never develops there always occurs a mental change aside from the unconscious state during the attack and the dullness that follows. A change of character is a sure concomitant; irritability and impulsiveness are the earliest signs of this change; the subject becomes sensitive, suspicious and morose, unreliable in word and action; there is a lessening of self-control, a weakening of memory; judgment becomes impaired, and the fine edge of the feelings, emotions and sensibilities are blunted; in short, all the mental faculties and ethical sense are below normal. Perhaps in the vast majority of cases this condition of mind is the direct result of the many and frequent motor storms; but of late attention has been called to the substitution of psychical for physical phenomena in many cases in which no motor convulsive demonstration occurs, but instead impulsive acts more or less violent, all the way from the simple dreamy state, the vertiginous loss of consciousness to the homicidal impulsive mania. It is in this connection that the relation of epilepsy to society increases in importance as the question of responsibility is here raised. Violence committed during a typical epileptic seizure raises no doubt of course as to the responsibility of the subject, but to establish the fact of a psychical substitution is another matter. This is facilitated, however, when the latter occurs alternatively with the former as is sometimes the case. Periodicity and the unconscious state also lend a helping hand in determining the true nature. While at Taunton (Mass.) Lunatic Hospital I had for a time under my care a male patient who had periodical attacks of unconscious homicidal mania, during which he was so violent and uncontrollable that it became necessary to seclude him until the storm had passed. There was positively no sign of motor-epilepsy in these attacks, but the periodicity and thoroughly unconscious state with the aura preceding seemed to confirm the diagnosis. After the attack he had no remembrance whatever of what had happened. The aura consisted in an unnatural restless sensation and irritability which he remembered. Between the attacks he was a model patient in every way, quiet and mild in disposition. The condition was acquired, having always been perfectly well until about thirty years of age when the seizures began. He had always been a hard-working man, a giant in strength and accustomed to lifting and carrying heavy loads. His first attack came upon a very hot day a short time after moving a very heavy piano. Consciousness is not wholly lost, however, in some cases, for a short time

after the act of violence, and the person will make statements when first coming to himself that he will afterwards deny, thus laying himself liable to the charge of malingering, which he will find it embarrassing to meet when later complete loss of memory occurs.

In this connection no less an authority than Kirchhoff says: "The memory of what has occurred may be tolerably clear during the attack and then disappear rapidly, wither completely or partially, so that the patient is liable to remember certain events. This fact should lead us to exercise great caution in judicial cases, becauses the suspicion of intentional deceit naturally arises if a confession which was made soon after the act is afterwards disputed by the individual." Clouston cites the case of an epileptic insane subject who carefully tied a stone into his stocking and concealed it for the purpose of killing him and the attendant, and at another time entered into a conspiracy with another patient to commit murder while in a state of epileptic unconsciousness. The recollection of both facts was denied when he returned to a conscious state. Clouston also remarks, "that the conscious anger will pass into the epileptic unconscious mania in a moment sometimes. But the acts of the insane epileptic are not always done in unconsciousness but sometimes from a reasoning insane motive, and it is known that he will plan to do an act of violence and aftewards endeavor to carefully conceal it." Never trust for a single moment an epileptic insane subject, and keep your eye out over your shoulder for a motor-epileptic, for the insane storm may come at any moment.

In periodical insanity we have an allied type to the two conditions already named; to paranoia in the morbid propensities, imperative conceptions and impulses and reasoning character of the delusions; to epileptic insanity in the periodicity of the attack, the lucid interval being at first not unlike the normal state, but after repeated attacks showing signs of dementia, and resembling both in the distinctive signs of degeneration that underlie the outward manifestations and stamp the disease as an incurable one.

Like epilepsy it may be induced by trauma or alcoholic over-indulgence, its periodicity is quite regular and the same form of attacks, like the aura of epilepsy, often recur for several years unchanged. The periods may be of frequent recurrence or some time may intervene between them. They may occur co-incidentally with the menstrual period, either just before, at the same time, or immediately after. The disease is more likely to first appear at puberty or the climacteric. It may take the form of simple mania, melancholia, or folie circulaire, or circular insanity, in which occurs in succession mania, melancholia and a lucid interval, the duration of each varying according to the individual case. In periodical mania it may assume the form of impulsiveness, moral perversity, dipsomania, kleptomania, homicidal mania, etc., while in melancholia the acts are not unlike those of simple melancholia except that the suicidal intent is more persistently and cunningly indulged in than in any other form of insanity. In the lucid interval, like epilepsy, it is characterized by anomalies of character and perversities of moral sense. An epileptic heredity is more often traceable than in other forms of insanity. No snap diagnosis should be made of this disease, a clear history being necessary to establish its periodical character. Dementia is the final outcome.

In the states of arrested and perverted development is exhibited another class of cases whose pathological phenomena are directly traceable to the same degenerative vice of the constitution that has characterized the conditions already considered. The sub-classification of this group is one rather of degree than of kind, including in a broad sense all subjects who fail in capability to reach the normal standard of mental development, and there is shown a complete gradation varying all the way from the non-viable monster to the normal man. It will suffice in this connection to consider this class under the two heads, idiot and imbecile, the former applying to all subjects unable to possess the simplest accomplishment, and the latter to all who can acquire simple accomplishments, but fail in exercising a reasoning capacity beyond that of a child. In both there is presented the emotional and impulsive side of man's nature at the expense of his reasoning and inhibitory capacity. The life of the idiot is mainly vegetative, guided by his instincts, and the imitative faculty, so characteristic of this class, is often very strong in the lowest idiot as is illustrated in the act of the idiotic boy who murdered, hung up and dressed his playmate precisely as he had previously seen a sheep disposed of. In the imbecile, however, this faculty may be put to higher uses, some of the finest artisans being developed from this class, while on the other hand a most powerful and undeniable factor in the formation of social disorder is often traceable to the uncontrollable development of this faculty.

The power of self-control is an innate quality of all normal brains at birth, but shows no development for at least six months. Preceding this age there is no mental action to control the tendencies and desires. This power of inhibition upon the instincts is one of gradual development and never reaches perfection in the ideal sense. In all beings sensations are received and acted upon. The tendency to act and the inhibition that arises upon perception and analysis of the sensations constitute the equilibrium, the normal condition. The loss of inhibition, resulting in a rupture of the equilibrium, constitutes impulse. A disturbance of the equilibrium may be temporary, due mainly to environment, and therefore relieved by treatment, but when due to a constitutional defect, whether congenital or acquired, as in the imbecile, we have to deal with a class of beings whose responsibility to society should be measured by the extent of his deficiency and not be determined by the standard set for a normal man. In nearly all these cases there is also presented a deficiency of the moral sense which is often very prominent and may be sufficiently so as to constitute the chief defect. The field of consciousness may be filled with overpowering morbid projects, imperative impulses and insane egotism; there is defective inhibition; the power of attention is weak and concepts poorly formed; although capable of distinguishing right from wrong, the imbecile lacks in reflective power and inability to weigh consequences; he fails in his conception of the true relations of life and the responsibilities that devolve upon him. He may have a good memory for simple events, but unable to acquire those mental coördinations involved in obtaining a higher degree of civilization. Although his reasoning faculties may be abnormal, he may not be unlike the normal man in his emotions and feelings, being kind, affectionate and mild, while on the contrary he may display a cruel, suspicious and treacherous nature which, coupled with defective reasoning and inhibitory capacity, renders him a dangerous element in society. The terms moral and impulsive insanity, dipsomania, kleptomania, pyromania, etc., the bugbears to the legal profession, are merely symptomatic in their scope, yet they all stand for an under-

lying condition embraced under the head of defective development, the result of an hereditary or acquired degenerative taint, and as much a psychosis as any form of insanity known.

High-grade imbecility, long since recognized by the alienist as a predisposing cause of crime, is fast finding an important place in the legal consideration of this class of degenerates. The recent case of Kelley in this state is a striking illustration of this thought and stands on record as a monument to the higher intelligence of public opinion in accepting so readily the opinion of experts and the decision of the court upon a crime so revolting in all its aspects. Had not the opinion, however, of the experts been based upon the idea of there being present an underlying condition of degeneration, in his case acquired, dating from a previous injury, it is doubtful if the public or the court would have accepted the plea of insanity on the strength of his delusions. This feature in his case, a previous history of epileptic attacks, is especially interesting and instructive in connection with the opinion now held, that epilepsy after a time may cease to exist as such, to give place to some other form of degeneration, showing that these outward manifestations are only the exponents of an underlying degeneracy which, under the varying conditions of advancing life, may assume new features.

The close relationship existing between the degenerate classes mentioned and instinctive criminality is also very manifest. This is especially true of the states of arrested and perverted development, between which and the latter there is more often a distinction than a difference. Ellis says: "Sometimes crime seems to be the method by which degenerating organisms seek to escape from an insane taint in the parent." The same law of the transformation in type in hereditary transmission applies equally to both. The instinctive criminal is one by inheritance. He is like the idiot and imbecile, a moral anomaly, not by cultivation alone, but because he does not possess the inherent qualifications which, even under the highest degree of cultivation, would make it possible for him to attain to the standard of normal social requirements. This moral perversity is a distinctive characteristic of all the types here considered. Of four thousand criminals who have passed through Elmira reformatory, 36 per cent. showed positively, on admission, no susceptibility to moral impressions, and of forty murderers who were once examined, only three expressed remorse. A large proportion of the incorrigibles and habitual criminals of our prisons is composed of these two types of subjects, in whom a moral equilibrium could not be found were they subjected to a thorough scientific examination. They spend the most of their time in prison, from which, sooner or later, they graduate to an asylum unless removed by disease. They readily develop delusions, hallucinations, and illusions, which confirm the diagnosis before the appearance of which it would be difficult to convince the public or the court of their irresponsibility.

It is a fact not to be questioned that the imbecile and less degenerate class known as feeble-minded, which is chiefly characterized by defective judgment, and in both of which suggestibility is a pronounced feature, are very much dependent upon a healthy environment to maintain a normal life. To him whose equilibrium is weak, the knowledge of a crime suggests its repetition. Like the mother after reading an account of a mother destroying the life of her child, presented herself for commitment to an asylum, laboring with the almost uncontrollable impulse to serve her own in like manner. It is this border-line class that fills our prisons with recidivists and our asylums with insane, both of which exhibit in common the traits of violence, impulsiveness, instability of passions, and moral and physical perversion, and insensibility.

The savage, in whom the moral sense is extinct, a man in form but a child in reality, is the nearest approach in human form to the instinctive criminal, the recidivist, and the insane degenerate. The instinctive criminal is always a recidivist, but a recidivist is not necessarily the former. MacDonald classifies the recidivist as follows: First, those who have positive tendencies to insanity and epilepsy; second, those whose family antecedents plainly lead them to crime; third, those whose morality and feeling of honor through training and environment are destroyed.

Thomas Wainwright, that prince of instinctive recidivists, fulfils all of these requirements. Born of degenerate stock, a cultivated essayist, a forger, a murderer, and finally actually insane, his life history presents a picture of degeneracy that fully illustrated the true relationship existing between degenerate criminality and degenerate insanity, which relationship is based upon a neuro-degenerative taint, more frequently hereditary but often acquired, incurable, and showing a progressive tendency under the most favorable treatment toward a state of complete irresponsibility. In addition to all this there has been traced by scientists, physical anomalies, common to the different types, which are regarded of sufficient importance to verify a diagnosis, already based upon mental and moral effects.

What is the duty of society towards this large class of unfortunates? It is encouraging to note that the old spirit of revenge that a century ago entered into the disposal of both the insane and criminal subjects is now largely a thing of the past, and that public sentiment is broadening and softening as it becomes more enlightened upon the true nature of the insane and crimial life. Protection from this dangerous element, not punishment for their acts, should be the motive behind all legislation. Hospitals for the insane and reformatories for the criminal should more rapidly displace the asylums and the prisons. Not that the latter can ever be entirely done away with, for there will always be a large proportion of chronics and incurables to be detained and cared for while they live, but far more can be accomplished with much profit to society in the line of scientific investigation and treatment of the acute and curable insane and criminal subject. It has been charged to the present prison system that more recidivists are made than cures produced, and I believe it to be the case. What can there be found in the prison system of to-day to turn a man committed for his first offense back into a better life? Nothing but the awakening of his own conscience. The novice in crime and the instinctive fiend share equally the same accommodations, and treatment, with the result that the former becomes contaminated by contact and hardened toward society, and when release comes he naturally drifts back into crime to ere long become the hardened recidivist.

What does society profit by adhering to this old method? It reaps a rich harvest of chronic criminals, to be turned loose at intervals to prey upon social order. We have constantly in our midst persons dangerous because instinctively degenerate, while the prisons aways contain those recidivists who, under proper treatment and a new environment when released after their first offense, might have made useful citizens. Criminality should be regarded as a disease.

The criminal, not the crime, deserves the attention of science, and there should be no antagonism between the jurist and medical scientist in this matter.

Whether a man is insane or a criminal, lies often in definition only. To protect society from his unsocial acts and cure the underlying condition, if possible, that has led up to these acts, embodies the true principle of reform. If the so-called sane criminal belongs to the instinctive incurable class, place him for life where he can do no harm. If his condition can be cured, place him where he may become a useful member of society. In this way recidivism will decrease, and instinctive degenerates will be kept where they properly belong. There is no more justice in allowing a dangerous instinctive criminal to enjoy his full freedom than the paranoiac or epileptic insane.

How this reform can be accomplished is the problem to be solved. The habitual criminal act in Massachusetts, and the reformatory systems in Massachusetts and New York are doing good work in the right direction. The indeterminate sentence forms the basis of commitment to the reformatories. Like the patient who is sent to the general hospital and insane hospital, the criminal is committed to be kept until, in the opinion of experts, he is sufficiently cured to render it safe for him to be at large. If found to be incurable, he is transferred to a prison, and if insane to an asylum. Of course, this involves a more scientific knowledge of the insane and criminal classes, but it leads to more definite and satisfactory results.

Ruskin says: "Crime cannot be hindered by punishment, but by letting no man grow up a criminal."

RUPTURE OF THE URETHRA; PERINEAL SECTION; RECOVERY.

BY J. HUBLEY SCHALL, M.D., BROOKLYN, N. Y.

M. W., aged forty-five, widower, with a negative family history and himself a healthy, vigorous man. While engaged at his trade he fell a distance of five feet and landed straddling an iron girder, striking upon his perineum. Immediately after the accident there was retention of urine with a profuse hemorrhage from the urethra.

A physician who was called at the time made numerous attempts to enter his bladder, but failed.

The case having been referred to me, I made a careful examination which revealed the following condition: The patient was suffering from profound shock, the penis and scrotum were immensely swollen and ecchymotic; there was marked tumefaction about the perineum, upper portion of the thighs and buttocks. The slightest manipulation caused free hemorrhage from the urethra.

The patient being anesthetized, repeated attempts were made to enter the bladder through the anterior urethra without success. A perineal urethrotomy without the aid of a guide was performed. The tissues being deeply stained with the free oozing, it was difficult to find the urethra. By allowing a stream of water to play upon the tissues for five minutes the tube was at last discovered. Examination showed the urethra to be completely divided. There was marked infiltration of urine into the cellular tissue of the scrotum, perineum and groin.

Introducing the finger into the perineal wound and carrying it upward and forward, it was made to enter the scrotum. Making pressure from without and using the finger from within the scrotum, I was able to scoop out clots of blood the size of hen's eggs. The sac was then flushed with sterile water. Having found the posterior end of the urethra, a soft rubber catheter was introduced through the perineal wound into the bladder and allowed to remain for vesical drainage. Strips of iodoform gauze were carried into the scrotum and the parts about the perineal wound lightly packed with the same. Gentle pressure was exerted upon the scrotum from below by means of a perineal bandage and pad, so as to facilitate capillary drainage from above.

The perineal catheter was kept in place for one week. Of course, removing it daily for thorough cleansing.

After the eighth day a steel sound was passed through the whole length of the urethra. It was guided in its passage by the finger placed in the perineal wound. Small strips of gauze were carried into the scrotal and perineal wound until the cavity was healed.

Every second day a full sized steel sound was passed into the bladder, thus moulding the urethra. The parts rapidly filled in with granulations and the perineal wound soon closed. Within eight weeks after the injury the patient voided urine through the anterior urethra.

The weekly use of curved sounds was continued. No. 32 entered the bladder without difficulty.

I saw the patient about six months after operation and found him enjoying perfect health.

TUBERCULOCIDIN IN THE TREATMENT OF TUBERCULOSIS.

BY C. M. HOLCOMB, M.D., WINFIELD, KANSAS.

IN dealing with the subject of tuberculocidin in the treatment of tuberculosis, it is not my intent or desire to enter into a discussion of tuberculosis, as to do so would be but to repeat that which has already been written. For the past two years I have treated most of my cases of tuberculosis with tuberculocidin as prepared by Professor Edwin Klebs.

Tuberculocidin, or T. C., as usually and briefly spoken of, is prepared from cultures of tubercle bacilli or glycerinated bouillon. After five or six weeks there is an abundant surface growth, the virulency of which is tested by animal inoculation. The culture fluid remains clear, and after five or six weeks layers of bacilli begin to sink. It is at this time they are taken for this preparation of T. C. Cresol is now added to kill the bacilli, mixing by shaking, and a room temperature is maintained for several days (this is so-called cold extraction of bacilli, which differs from tuberculin, where extraction is made by boiling the antibodies probably destroyed); the cultures are now *in vacuo* for successive hours at a temperature ranging from 40° to 50° C.

Filtration is then made of disintegrated bacilli and the filtrate treated with sodium bismuth iodide, precipitate of greater amount of toxic (alkaloid) substances; the clear filtrate is then treated with absolute alcohol, which holds in solution certain other toxic substances and leaves the precipitation a whitish substance, an albumosis (soz albumosis), which is soluble in water. Solutions of this are tuberculocidin, the strength of which is determined by the percentage of solid substance which it contains, usually being about one per cent. The theory of its action is based on the same principles which have been corroborated by animal experiments and seven-years' experience in the treatment of human tuberculosis by Prof. Edwin Klebs. This principle depends on the necessity of elimination of the toxins, which

made the trial of Koch's tuberculin in man so dangerous Every organism forms by metabolism substances poisonous to itself, the so-called autotoxins of self-poisons. We find in the excrementitious products of tubercle bacilli such substances which destroy these organisms, but are beneficial to tuberculous patients—animal experiments show this to be the case. Certain substances in the cultures of tubercle bacilli have a bacteria-killing or bactericidal power, and if we eliminate the toxins from such cultures they must be valuable for therapeutical use. Professor Klebs discovered that this elimination of the toxic principles can be effected by the action of sodium bismuth iodide.

Tuberculocidin can be used in all forms of tuberculosis in which the toxic effects of the tubercular virus have not yet markedly developed, and in which slight fever only is present, the vital forces being well preserved; those cases accompanied by fever and cachexia may not always tolerate it. Sometimes it provokes fever due to destruction of tubercle bacilli, thus liberating their poisonous substances. In most cases it is necessary to accustom the patient to it by small doses continued for a long time. Under such circumstances the natural resistance of the body must be increased by hygienic and dietetic measures, such as are usually carried out in well regulated sanitariums. Accompanied by such favorable measures we have in the tuberculocidin a most valuable remedy.

The rules for its administration, as laid down by Professor Klebs, are:

1. Always commence with small doses.

2. If the first injection is not followed by an elevation of temperature of more than 1° F., give the next higher dose on the following day. In cases of higher temperature give the same dose as long as the slightest elevation of temperature takes place.

3. If the smallest dose will not be tolerated, institute first the hygienic treatment mentioned above, including careful cleansing of the mouth and air passages. It will very rarely be necessary to add internal treatment by antiseptic and antifebrile drugs; cold sponging, douches, shower baths, and rest are usually sufficient to control the fever.

Dosage.—The initial dose is one and a half minims, and the daily increase is the same until the maximum dose is attained, which is thirty minims daily, while fifteen minims daily is the medium dose.

Time Required.—From two to four months is required in an average case, and from 100 to 200 c.c. will be needed. In many cases it will be necessary to repeat this treatment after a period of several months' rest, and also it is best to repeat the following year for a month or more—some cases will require repetition for several years. Klebs reports cases thus treated for from four to six years. Other cases seem to be cured after one course of treatment. Patients who have been fully instructed with the treatment may apply the after-treatments themselves by rectal injections, so their usual avocations are not interfered with, needing only the supervision of their medical adviser. Children by preference should be given the rectal injections.

Clinical Reports.—Miss E. D., aged 27. Family history good; no tubercular taint. In 1895 complained some of cough and quite free expectoration in the morning. In the latter part of 1895 she noticed some fever in the afternoon of each day and some loss of flesh. This condition continued through the following year, so that her weight was reduced from 147 to 117 pounds; gastric disturbances, loss of appetite and occasional vomiting of food in the morning. She had up to this time held a responsible position for a firm in Los Angeles, California, and on the advice of her physician resigned it and returned to her home at Winfield. In August, 1897, she came under my care. On examination I found a marked dulness of apex of left lung, and some crepitant râles; pulse, 110; temperature, 101½° F. Bowels were constipated much of the time, and there were occasional diarrheal attacks. She complained of much pain and throbbing of the rectum after each movement of the bowels, which on examination was found to be caused from an ulcer. Microscopical examination of sputum revealed the presence of tubercle bacilli, averaging five to the field. Scrapings from the ulcer also revealed their presence. She was placed under the usual hygienic treatment, cold baths, outdoor exercise and also dietetic regulation; internal treatment consisted of syrup of hypophosphites, with the addition of codeine for the very troublesome cough. On the 24th of August commenced injections hypodermically of T. C., minimum dose 1½ minims, increasing daily by 1½ minims until we reached 15 minims, when marked reaction occurred; this was the maximum dose, as she would not bear, and did not throughout the treatment, an increase. At the end of ten days the pulse fell to 95 and the temperature to 100½°. At the close of thirty days pulse was 90, temperature 99° F., weight 120, tubercle still present in the sputum, but lessened in number. At the end of sixty days pulse ranged from 80 to 83; temperature in the morning subnormal and evening 99° F.; weight 127 pounds. This marked improvement continued, and at the close of ninety days we had a normal pulse and temperature and weight of 137 pounds. No râles; no cough. The last injection was given November 27, 1897, the case being dismissed at that time, as no tubercle bacilli had been discovered in the sputum for over a month, and she had regained her former weight of 147 pounds, and, as she remarked, never felt better in her life. While she has been under observation up to the present time, no sign of recurrence has occurred, and I believe the case to be fully and absolutely cured.

I can report seven other cases with as good results, one of them having a small cavity formation in right lung. In those advanced cases with mixed infection I have seen no good results; and none is to be expected either in those rapid cases or so-called quick consumption. I have tried it on four such cases, and the results were *nil.* In localized tubercular bases, as of joints or in lupus, I have not given it a trial, but believe it would be of great value. Tuberculocidin is certainly an addition to our armamentarium in the treatment of certain forms of tuberculosis, and is entitled to a trial.

THE CURABILITY OF BRIGHT'S DISEASE.*

BY ELMER LEE, A.M., M.D., NEW YORK.

PREMATURE death is the rule for the human family, while a desire to prolong life and stay among the shifting fortunes which constitute the happiness and the pain is equally a rule of human existence. When vitality is low and the cares grow heavy, gradually the hope for long life is relinquished. Looking at the phenomenon of death after a long experience in the practice of medicine, and of life lost through Bright's disease, there is no escape from the conviction that premature death from disease is pre-

* Read at the regular meeting of the Medical Society of the County of New York, April, 1899.

ventable, and that it is wholly unnecessary that any considerable number of persons should perish from degeneration of the kidneys if reason and prudence prevailed as the guide from day to day. The body is mutilated by voluntary excesses, and these form the incipient causes which later determine into sufficient prominence to be apparent to the patient and discoverable to the physician as symptoms of disease. The vital chemistry is affected both by mistakes avoidable and by those which are unavoidable, and the greatest dangers are from abuses and misuses of the simplest things in the world. The eating and the drinking, together with the privilege of air, light and exercise are common to all; then if each one had but the knowledge and the inclination to use these factors for good, it would be possible for every one to enjoy perfect health and a long life. Sickness prevails to such a large degree that the well are looked upon as exceptions to the rule. And yet precisely the same elements surround all persons, and it is in the power of any one, if he but knew it, to appropriate to his use those things which would prevent disease and enable him to escape from premature fatality. That this useful information is not widely comprehended and employed is fully established by the evidence of pain and sickness, among all classes and of every age; the rich and poor, the highest and the lowest intelligences alike suffer. It is not possible that this wide dissemination of the seeds of invalidism is natural, and if not, against whom can the guilt for this great crime be placed? It is universally recognized that nature, perfect and inviolable, performs the processes of waste and repair without mistakes or failure, so long as the material for her laboratory is provided according to the laws which govern her movements.

The mistakes are directly chargeable to either errors of omission or commission by the individual. The artificial everywhere is made to supplant the natural methods of supply for the daily requirements. The wider the separation from the simple state of close dependence upon natural living, the greater the danger of disease. By reason of the vast array of writers on medical subjects, and the consequent variation of recommendations both for preventing, as well as for curing disease, it is a seriously hard matter for the average man or physician to avoid confusion in the choice. There is a class of writers that proclaim the superiority of flesh food and advocate that meat should comprise at least two-thirds of the daily diet both in health and in disease, including Bright's disease. Their liaterature has been carefully studied and the methods investigated, and what has been found would seem to establish the truth of the position which they claim upon clinical demonstration. Food questions are far from settled and have antagonized nations, religions and governments for ages. Again, claims are strongly held that the proper food is vegetable, and to those who so think, meat-eating appears contrary to a high moral sense, and productive of degeneration of both the body and the mind.

But whether the food is of one or the other class, whatever is an excess taken into the stomach leaves a load of food waste in the system which constitutes the early cause of irritations and consequent impairment of the organs of elimination. Bright's disease has no affinity for those who live upon coarse food, live moderately and adopt pure water for drink. High living and excesses in drinking promote the conditions suitable for this disease. The poor man may induce the state of impaired resistance through too much eating and too little exercise, and when to this is added the intemperate or even moderate indulgence in alcoholics, he experiences symptoms of the disease, perhaps not marked enough to name the cause of fatality Bright's disease, but at least a contributing cause of death. Healthy kidneys can only accompany a sound body, and with impairment of health it is certain that every tissue is affected to some degree. The notable and frequent micturition in infancy, generally occasioned by excess of feeding, initiates the beginning of renal disease.

The description of certain symptoms associated with disease, as discoverable in the urine, has given an immortal name to Dr. Bright. The disease is one of many forms of fatty degeneration and may begin at any period of life, frequently happening from improper nutrition in infancy and early childhood. Albumin in the urine is one factor in the diagnosis, but not sufficient in itself. A more important sign is the presence of tube casts of the kidney. By casts are meant bodies formed of albumin, fatty matter, lardaceous and hyaline matter poured out of the blood into the tubes of the kidneys, taking the shape and size of these moulds or tubes, and which after a suitable interval separate and are found in the urine. The presence of fatty epithelia from the kidneys, as when fat in the form of globules is deposited in the epithelia of the lining membrane, is the third factor in the diagnosis. When the three factors, albumin, tube casts and fatty epithelia are found in a given case the diagnosis is reasonably certain. Whether these diagnostic signs are directly or indirectly the result of arterial fatty degeneration, it is one and the same cause which produces the disease and requires recognition and treatment. It is practically a disease of fatty degeneration produced by improper food, or food in excess; too much starch, sugar and other fat-forming material.

Exclude the excess of fat-forming articles of diet, regulate the food so as to forbid indigestion, eat according to the needs, as dependent upon occupation and climate, and nature will of herself stop the destructive breaking down and systemic disintegration of tissue into fat, provided vitality has not run so low as to prevent reconstruction.

With a knowledge of the changes which follow in the kidneys dependent upon degeneration in the tissues of the whole body through preventable causes, the practical question that is important to the patient is, what changes are necessary in the mode of living to prevent further degeneration and which will restore the system to a healthy condition. There are few disorders which are more under the influence of medical control than the catarrhal inflammation of the kidneys. The plans of treatment formerly adopted, and still advocated by some physicians are responsible for failure to cure this tractable disease in the earlier stages. With favoring circumstances the danger is reduced to so slight a degree that with even simple treatment recovery may be expected in a large proportion of the cases. It is quite sure that even without treatment many cases pass safely to recovery. It is desirable to avoid the use of any drugs which, under the name of stimulating diruretics, might exasperate the existing congestion; and it is necessary to enforce such rules of diet as to reduce to a minimum that nitrogenous excess which finds its way out chiefly by the kidneys, and provides in many shapes effective means of irritation. Physiologic repose is to be sought, not by debarring the gland of the necessary and harmless solvent, but by cutting off the materials of urea and uric acid. Spare diet and pure water may often be found sufficient though simple remedies. Of all diuretics water is the best.

It may be generally stated that this inflammatory dis-

ease arises from unnatural stimulation of the kidneys. The blood is charged with (food) material excessive in quantity or unnatural in quality, which these glands take upon themselves to remove. Their own proper elements of secretion are poured upon them in sudden and excessive amount, or matter is thrown upon them which is foreign to their usual habit. As a consequence of overwork or work to which they are not adapted, they take on a turbulent and abnormal activity. They become congested, the tubes get choked up with epithelial growth and the disease is established.

The foregoing symptoms are frequently present in supposedly healthy persons and excite little concern in the individual, and often escape recognition by the medical attendant, or a failure to comprehend the whole significance. The principal cause is attributable to excessive diet and insufficient exercise. These symptoms are often present in the young child together with purging and later followed by constipation. The pain endured by the little patient is great even though he is unable to talk and tell where the pain is; peevishness, general malaise and crying tell of suffering, not of their perversity. With children involvement of the organs of respiration is the most fatal tendency of the disease. Not only are they liable to pleurosy, pneumonia and bronchitis, but, also, to membranous croup.

It is clear that nephritis is a manifestation of disease principally attributable to errors in diet and exercise, and with localized lesions of the kidneys. Then it is equally plain that the course to take in the successful treatment of this disease is to minimize the harmful influences that make up the daily life of the individual and to exalt the importance of those natural and simple forms of food elements which are able to construct without leaving rubbish that would further imperil the vitality of the system.

In truth there is a process of degeneration going on throughout the entire structure of the man, even to the last tissue, and the symptoms of Bright's disease are all indicative of this; and this is more or less true of all disorders. The naming and classifying of diseases are calculated to mystify and mislead. Sickness is the proper term for describing them all; the misguided and wilful abuse of food and drink is the principal cause of them, and obedience to natural law the only means of prevention and cure.

My experience in the successful management of Bright's disease has satisfactorily demonstrated that a plain and infrequent diet, suited to the nature and the amount of open-air exercise is the first requisite toward prevention of the cause of the disease, and naturally the first remedy in the cure.

The meals should be limited to two, a morning and evening, with a piece of bread and fruit, or that which is equally simple and light, between times if necessary. With the sick, two meals are, indeed, the greatest abundance for every demand. The food may be a simple, mixed diet, or it may consist exclusively of bread and properly cooked fresh vegetables and fruits in suitable proportions and quantity. This will sustain the patient's strength and cannot produce harm. The main point is food in moderation, and certainty that that which is taken is digested and assimilated.

The drink which is best and always best in these cases is water, preferably distilled, or that water free from salts and organic impurities. The quantity for the daily use in sickness is regulated according to the weight and condition of the patient, but it should be enough to permanently keep the urine at a low specific gravity (1010 to 1012).

The clothing worn next to the skin may be of any material except wool, provided it is light in weight and loose. My recommendation is for the medium to light weights in silk, cotton or linen-mesh underwear for all the seasons. The importance of free ventilation of the skin is a factor in the cure of this malady which has been heretofore overlooked. The outer clothing is to be of sufficient weight to protect from the extreme cold of the winter, but in summer the lighter the better.

Exercise is indispensable, exactly in accord with the strength and the amount of food taken, when the exercise is the least the food must likewise correspond. Exposure to the air and sunlight are also necessary to the patient; climate is not material. The least amount of medicine possible, for temporary use only, and rigid abstemiousness in diet, admitting into the stomach only simple food and water, will cure Bright's disease when other measures fail and in cases where hope is well nigh abandoned.

127 West 58th Street.

THE TREATMENT OF DYSENTERY LOCALLY AND GENERALLY.

G. R. JOHNSON, M.D., PHILADELPHIA.

DYSENTERY, as it appears in our climate, is undoubtedly purely local in its origin, free from any constitutional involvement. There are forms of dysentery due to poisons in the blood or micro-organisms, but they are not common in the experience of American practitioners, and yet the local treatment of dysentery which is the logical method of treatment of this condition is not practised as it should be. The ordinary treatments do good by local action largely—mercury or ipecac by stimulating glands in the intestinal tracts, purgatives by depleting and reducing the local congestion, while such soothing bland substances as bismuth spread therein on the inflamed surfaces of the intestines and exert a local action.

Still the use of local applications are often efficacious to an extraordinary degree. Some years ago the journals were full of articles on the use of forced enemata containing one-half drachm to a drachm of nitrate of silver dissolved in three quarts of water. This injection frequently had extraordinary effect, but its use has somewhat died out. A still simpler and often more efficient local treatment is the flushing of the intestines with the injections of large quantities of cold water followed by the use of enemata containing two or three drachms of the subnitrate of bismuth; as pointed out by Wood, these enemata were much more effective in acute dysentery than the exhibition of bismuth by the mouth. Hot water does not have the effect of affording relief at all in comparison with the use of ice cold enemata.

If the lower colon is the seat of the inflammation the local applications of ice are often particularly happy in their effect. This treatment as suggested by the same authority often changes the whole aspect of an alarming case by the continuous use of ice suppositories. They should be used rapidly, one being placed in the rectum every three or four minutes, so as to get for at least half an hour to an hour the effect of the continuous application of cold. Iodoform suppositories are often more useful than opium when the tenesmus is marked. Again the use of ergot by suppositories is indicated when the

passages contain large amounts of blood. Twelve grams of extract of ergot with iodoform, used every two hours until four or five suppositories have been taken, are often happy in effect.

For local depletion salines are excellent, although in children castor oil in small quantities or the spiced syrup of rhubarb is perhaps preferable. The use of Epsom salt every morning and evening with small doses of opium to quiet the pain, or the use of the citrate of magnesia until there is a full fecal movement is generally curative. On account of the chill or chilliness followed by fever, quinine may be added to the laxative. For this purpose this is a satisfactory and well tried prescription:

℞ Quininæ sulphat.....Gr. ii
Ext. opii .....Gr. ¼-½
Mass. hydrarg.....Gr. ½
Ft. pil. No. 1.
Sig. One or two every 2 or 3 hours.

The depression is removed by the quinine, while the opium, relieving pain, seems to stimulate, and the mercury acts to move the bowels gently.

Of course the general symptoms must be treated as they arise. Stimulants, tonics, a carefully selected diet, rest in bed are all indicated. The bed-pan should be used exclusively. Following recovery, the use of a careful diet is especially necessary.

DIAGNOSIS AND TREATMENT OF RENAL TUMORS.*

BY J. HERRINGTON BEYNON, M.D., NEWARK, N. J.

Physician to St. James Hospital, Surgeon to Alexian Bros. Hospital.

FOR the convenience of diagnosis and treatment, tumors of the kidney may be classed as solid and fluid.

Of the fluid tumors, hydronephrosis is most frequently encountered, and may be defined as an obstructed accumulation of urinary fluid, either temporary or permanent, within the pelvis or calices of the kidney, resulting either in resolution, or dilatation and inflammation with loss of function, atrophy or pyelitis, or both.

The accumulation may be much or little; at times so small as to be almost undiscoverable, again amounting to gallons.

One or both kidneys may be involved, when unilateral the opposite organ is usually hypertrophied.

As to the etiology of this affection, opinions differ. Some authorities claim a congenital origin; others of equal eminence, an acquired one.

Under the head of congenital causes may be mentioned as most important, malformation of the ureter at its junction with the kidney or bladder.

Among the acquired causes are stone, cicatricial contraction or ulceration, pressure by tumors, carcinoma, papilloma, hypertrophy of prostate, etc.

Dietetic errors and emotional disturbances are said to predispose to this condition.

Women are more subject to this affection than men owing doubtless to the tendency to entoroptosis superinduced by the pressure and dislocation incident to tight-lacing and the period of gestation.

The symptoms of hydronephrosis are much the same in all cases, except those produced by the twisted ureter of a floating kidney, modified, of course, by the cause, degree, and stage of development.

We find a tumor in either flank, growing from above lying below the liver, behind the colon and giving a dull note on percussion except where covered by the colon, at which point, it is tympanitic.

These latter points are most important, and should be remembered, as they differentiate hydronephrosis from splenic and hepatic tumors.

Patient may or may not suffer with constipation or diarrhea, both of which may be produced by pressure and irritation.

There is an intermittent form ushered in by colicky pains continuing in some cases for hours or days, until relieved by a copious discharge of urine.

This latter variety is generally produced by the twisted ureter of a floating kidney, and obviously, circumstances or exercise likely to cause jolting or jarring, such as jumping or horse-back riding, should be religiously avoided.

"As the result of a changed position the ureter no longer opens into the lowest portion of the pelvis, and the urine begins to collect there before it can be evacuated. A dilation of the dependent portion follows, and the opening of the ureter continually advances upward and there is finally formed a sort of valve, while the increasing intrapelvic pressure displaces the ureter. By means of a faulty insertion of the latter and a similar mechanism, the congenital hydronephrosis is also produced. The watery accumulation may be converted into pus by infection, but the suppurative form usually results from a pyelitis, producing an interstitial abscess through faulty evacuation of the resulting secretions."

The writer has under treatment a case produced by twisting of the ureter. She complains at times of extreme tenderness and pain, which radiates about the loin and shoots down the thigh with an agonizing stab, again, as she expresses it, "a kind of knock-down-and-drag-out sort of heaviness" permeates the entire affected side of the abdomen, minus the pain and tenderness.

The differential diagnosis includes ascites, ovarian tumors, and circumscribed peritoneal exudates.

Changes in position will show varying dullness in ascites, while in hydronephrosis the dullness remains the same, except in floating kidney.

Ovarian tumor is a pelvic growth, while the other is a lumbar development.

The bowel is in front of hydronephrosis, but around ovarian cyst. Hydronephrosis is sometimes mistaken for appendicitis, as the writer knows to his sorrow, one attack, however, generally renders the doctor, if not the patient, immune from secondary "breaks," but of this, more anon.

Prognosis usually depends upon the cause, and is generally unfavorable, except in the intermittent variety.

The bilateral type is always dangerous owing to the uremic hazard. Most cases sooner or later become infected and pyonephrosis is the grave and unhappy sequel.

The treatment of this affection depends largely if not entirely upon the cause, the removal of which is rarely possible, there are, however, three requisitions which prsent themselves for consideration.

Firstly: The removal of the obstruction, thus permitting the discharge of accumulated fluid through the natural channels, the ureters, as by massage and catheterization.

Secondly: The artificial removal of the fluid, by aspiration or otherwise.

Thirdly: The removal of the kidney, which, though the severest, is the most satisfactory and certain.

As before stated, the removal of the ureteral obstruction is neither always practicable or possible.

* Read before the New Jersey Surgical Society, Dec. 4, 1900.

In mild cases the treatment is principally symptomatic. Gentle massage with skilled catheterization avail. More often, however, only surgical measures are of use.

These include puncture, incision and drainage. Nephrorraphy and nephrectomy with formation of renal fistula. Such operations, however, must be considered as "dernier ressorts," and adopted only after repeated reaccumulations of fluid following the afore mentioned milder measures for relief.

The case of hydronephrosis mistaken for appendicitis occurred in the writer's practice years since; suffice it to say that we were called, and found patient suffering intense pain in the region of the appendix with dullness, extreme tenderness, fever, etc.

Naturally our diagnosis was appendicitis. So prescribing salts in small and repeated doses, ice-bag, etc., and assuring her of a rapid and sure recovery, we left, promising to call on the morrow. But imagine our astonishment to receive a hurried call at 6 A.M. next day. We responded with promptness and trepidation, and upon entering the room patient exclaimed, "Oh doctor! I've had an accident, the bed slats broke, and I fell through, and it hurt me and jarred me awfully."

(Doubtless it did jar her, but not as much by half, as the result jarred me afterward) "but I feel better now, and I've done nothing but pass water ever since."

Sure enough, upon examining the vessel, she had passed at least 2½ quarts of ill-smelling urine. The plot began to thicken.

Just imagine my surprise to find, upon examining the patient, no sign of a tumor; pain, tenderness, dullness all gone.

"So you feel better now, do you?" I remarked, feeling very foolish, but trying to look very wise—"you are O. K."—"I told you so!"

As we talked we thought and thought hard, and as we thought, the light dawned upon a dark and gloomy world, and like our illustrious predecessor—Adam of old—we knew good from evil, right from wrong, and a good many other facts that we did not know the day before.

Appendicitis! yes, oh yes! She had it, every symptom except the operation, doctor included.

To this day patient frequently and feelingly refers to the time when she had appendicitis, and of the way the good doctor rescued the perishing—so does he.

SOME EXPERIENCES WITH HEROIN.

BY I. J. MARTINSON, M.D., NEW YORK.

SINCE the introduction of heroin as a therapeutic agent in disorders of the respiratory organs, much has been written about its properties. Every practitioner who is interested in the newer remedies knows that heroin is a derivation of morphine that possesses many advantages over the later without showing some of its objectionable features. Heroin is almost insoluble in water, while its salt, heroin hydrochloride, is very soluble, and may be used hypodermatically.

In the present article I do not intend to go into details about the pharmacology of heroin, which is discussed by Professor Dreser in the *Therapeutsche Monatshefte*, September, 1898, and in the *American Therapist*, December, 1898; my object is only to present a series of different cases treated by me with heroin and heroin hydrochloride. I could not notice any essential difference in therapeutic action between heroin and its salt; the latter I made use of mostly in cases where the circumstances allowed me to apply it hypodermatically; for internal use I prescribed both heroin and heroin hydrochloride. From the cases treated with the above remedies in my private and dispensary practice, I select the following, comprising almost all disorders of the organs of respiration, *i. e.*, laryngitis, acute and chronic bronchitis, asthma, tuberculosis pulmonum, pneumonia and whooping-cough.

CASE I.—Charles M. applied for treatment December 8, 1899. The patient is 33 years of age, furrier, and complained that he caught cold four days ago. Since that time he had been hoarse, had a burning pain in the throat, and coughed especially at night, expectoration being very scanty. Diagnosis: Acute laryngitis and bronchitis. I prescribed an expectorant mixture and a laxative. On December 10 the patient reported that he did not feel better. I then prescribed heroin, $^1/_{12}$ grain, three times a day. After taking the first tablet he felt considerably better, and did not cough for eight hours, when he had a violent attack of coughing, lasting a half hour. After taking a second tablet the cough ceased completely.

CASE II.—Mr. N. K., aged 54 years, telephoned for me November 22, 1899. On entering the hall I could already hear the labored breathing of the patient, who was sitting in an armchair and gasping for breath. Various kinds of râles could be heard even without applying the ear to his chest. Examination showed me that I had to deal with a case of asthma and chronic bronchitis. The history revealed that the patient had been suffering from this disease for about ten years, had been treated by a great number of general practitioners and nose specialists, and had employed every remedy recommended to him by good friends, but nothing relieved him. I disinfected my hypodermic syringe and needle and injected a solution of morphine, nitroglycerine and strychnine (combined in a tablet). This has given me good results in some asthmatic cases, but it did not have any effect this time. I then resolved to try heroin hydrochloride, and dissolved a $^1/_{24}$ grain tablet in ten minims of water, and injected it into the skin of the forearm. The result was remarkable. After a couple of minutes the breathing became less rapid, and the patient felt relieved. Since that time I have had occasion to see the patient suffering from similar attacks, and a hypodermic of $^1/_{24}$ grain of heroin hydrochloride always cuts short the attack. I also instructed the patient to take $^1/_{12}$ grain of heroin internally as soon as he felt the attack coming on. Its action was good, but much slower than by the hypodermic method, and usually $^1/_{16}$ of a grain had to be taken before relief was obtained.

In this instance heroin acted very favorably, and other cases of bronchial asthma treated by me also showed a tendency to improve rapidly under heroin when taken before or during the attacks. In no case of asthma did I notice any undesirable after-effects.

CASE III.—Miss F. L., aged 22 years, was coughing for eight months before she applied for treatment, on January 14, 1900. Patient was losing weight rapidly and perspiring very much at night. The cough was very dry, and became more troublesome during the night, and prevented her from sleeping. Two hours before I saw her she expectorated a large quantity of blood. The family history was negative. Physical examination revealed a cavity in the right apex; microscopical examination of the sputum showed tubercle bacilli. Creosote was prescribed, and also ergot for the hemorrhage. On the following day I was called to the patient's house. The cough was not getting better; the hemoptysis did not stop. I ordered heroin, $^1/_{12}$ grain,

every four hours. January 16 the patient slept comparatively well that night; the cough was not as painful as before; the sputum contained traces of blood. She was directed to continue heroin. January 21 patient felt much better, coughed considerably less, and the sputum was free from blood.

I had occasion to try heroin in several other cases of phthisis pulmonum. The cough was relieved in all cases; in some of them it ceased entirely for weeks. The hemoptysis, however, could not always be checked as promptly as in the case cited above, but heroin deserves a trial in hemoptysis, not yielding promptly to the usual remedies. A good combination in such cases proved to be that of heroin and plumb. acetate.

Case IV.—Mrs. S., 45 years of age, had coughed for two years constantly, and tried almost everything with no result. Diagnosis: Chronic bronchitis. Heroin in doses of $^1/_{12}$ grain was administered, t. i. d. After taking the first dose the patient vomited; the second and third dose had the same effect. Although the patient noticed that she coughed less after taking the tablets, she refused to take them any longer on account of the vomiting. In ordering heroin I had not specified when it should be taken, before or after meals, so the patient had taken them before meals. I persuaded her to give the drug another trial, but to take the tablet after each meal. The patient followed this advice and did not vomit any more. She took heroin for some time, and felt much better.

I would suggest to give heroin exclusively after meals, as we can avoid by so doing the unpleasant after-effects, as nausea and vomiting, noticed in rare instances of persons with delicate stomachs. I observed also in another case that heroin hydrochloride is less liable to produce these after-effects than heroin itself.

Case V.—D. R., 17 years old; pneumonia crouposa. I saw the patient on the third day of the disease; temperature 104°; pulse, 120; number of respirations, 40. The lower lobe of the right and upper lobe of the left lung were consolidated; bronchial breathing all over the consolidated parts. Among other remedies I used heroin with benefit, as the patient often had coughing fits. An effect on the course of the disease it did not and was not expected to have.

While we can use heroin safely in all respiratory disorders of adults, and can even give comparatively big doses to patients who do not show unpleasant after-effects when taking the initial smaller doses, we ought to be very careful in prescribing heroin to children. Here a slight overdose can have very serious consequences, as I am going to show in the following selected cases:

Case VI.—Clara L., aged 4 years, acute bronchitis, lasting four days. The different cough syrups and mixtures had been tried without improving the cough, and I prescribed the following mixture:

Heroin	¼ grain
Dissolve in acid acetic. dil. q.s.	
Syrupi pruni virgin.	
Aquæ	aa 2 oz.

M. S. a teaspoonful, t. i. d., p. c.

One dose of this mixture contains $^1/_{60}$ grain of heroin. An hour after I left the patient I was called back hurriedly and found the child in a state of collapse, cyanotic, with cold extremities, and a very weak and rapid pulse. I gave a hypodermic injection of atropin and strychnine, and stimulants; the child recovered. It had taken only one dose of the mixture, that is, $^1/_{60}$ grain. I told the mother to continue the same medicine, but to give only half a teaspoonful. This dose, that is, $^1/_{120}$ grain, was tolerated very well, and was increased afterwards to $^1/_{90}$ grain. The cough disappeared in a very short time.

I also saw collapse following in another case of bronchitis in a child six years old after a dose of $^1/_{60}$ of a grain. It seems that children are very sensitive to the drug; but it is undoubtedly true that even with very small doses good results can be obtained without any after-effects. I gave as little as $^1/_{200}$ grain to a child one and one-half years old, suffering from a severe bronchitis, and was very much satisfied with the result.

Inasmuch as heroin is the cough remedy par excellence one would be inclined to try it in a disease of children where cough is the most prominent symptom, in whooping-cough. I tried it in five cases of this disease, the following two occurring in the same family:

Cases VII. and VIII.—Annie and Charles M., aged four and two and one-half years respectively, had had whooping-cought for three and two weeks respectively. I prescribed heroin in a mixture with syrup pruni virgin; $^1/_{90}$ of a grain pro dosi for the elder and $^1/_{120}$ for the younger child, three times a day, after meals. In the older heroin acted well, the number of attacks decreasing from 15 pro die to 10; then to 5 and 3. About ten days after the first administration of heroin the attacks disappeared entirely. In the younger child heroin given internally did not act at all. I administered then for a couple of times $^1/_{144}$ of a grain of heroin hydrochloride hypodermically (10 minims of a solution of a $^1/_{24}$ grain tablet in a dram of distilled water). A slight improvement was noticeable; the number of daily attacks diminished slowly, but the single attacks did not last as long and have not been as severe as before the administration of heroin.

Case IX.—Herman M., 6 years of age, came under my observation when suffering from whooping-cough for three days. As the patient was living in the same house with me I had him under almost continuous observation. I gave him heroin $^1/_{90}$ grain, t. i. d. The first three days of treatment the number of attacks was increasing, but the single attack was much milder and of much shorter duration. On the fourth day I started to give heroin hydrochloride $^1/_{120}$ grain hypodermically twice daily. I treated the patient this way for four days; on the last day the number of attacks in twenty-foru hours amounted to four (in the beginning of the treatment he had fifteen). After that I gave the remedy again internally, as for many reasons it is not convenient to treat children hypodermic medication for a longer period. Patient did not have more than three attacks daily. Cough disappeared entirely twelve days after beginning of treatment.

In these three cases heroin proved to be very successful. In the other two cases of whooping-cough which I treated with heroin the effect was not so marked, the number of attacks not being influenced very much, but the attacks losing their previous severity and being of shorter duration. Here again I must insist upon giving the remedy in as small a dose as possible in order to avoid unpleasant results.

Among other diseases of children I used heroin also in two cases of catarrhal (bronchial) pneumonia, but could not notice any influence upon the course or the symptoms of this disease.

From the foregoing observations the following conclusions can be drawn: Heroin and heroin hydrochloride can be used with very good results in all disorders of the respiratory organs; they combat the cough and dyspnea, the most troublesome symptoms of these disorders. In hemoptysis they will often check hem-

orrhage where other remedies fail. To avoid unpleasant after-effects, which are very rare in adults, heroin should be given always after meals. Heroin is also a very valuable drug in diseases of children, but the dose should be as small as possible, an overdose being liable to produce serious consequences. Heroin should be tried in whooping-cough, being of decided benefit in many cases, reducing the number of attacks, or at least influencing their duration and severity. Heroin and heroin hydrochloride, especially the latter, when used hypodermatically, act promptly in bronchial asthma.

CORYZA AND ITS TREATMENT.

BY H. B. WOOD, M.D., PHILADELPHIA.

ACUTE catarrhal rhinitis is one of the most common affections with which the general practitioner comes in contact, especially at this season of the year.

The etiology of coryza is important when considering the treatment, those conditions opening the pathway for the contraction of the rhinitis being one of the essential thoughts for correction. Any preëxisting abnormality within the nose is a predisposing cause, especially when there are chronic hyperemia and hyperesthesia. The uric acid or gouty dyscrasia is an important factor in the establishment of a rhinitis. The personal hygiene counts much in assisting an attack, the excessively eating, indolent and under-exercised person being prone. In lithemia cases, or where the kidneys are not doing their normal function, resulting in scanty, high colored urine filled with uric acid, a mixed urates in these coryza is especially apt to occur. The oncoming attack of acute catarrhal rhinitis is perhaps accompanied with a slight rise in temperature, but is marked by some tingling in the nose, followed by increasing sneezing. Soon there comes a discharge, rapidly getting serous and profuse. The erectile tissue of the turbinate bones swells and occludes the nose. This causes an interference or suspension of taste and smell. The subject becomes a mouth breather. The character of the voice changes; the eye becomes suffused; the frontal sinuses become closed, the maxillary sinus, perhaps, becoming involved later. Neuralgic pain appears from the closure of the opening of the antrum of Highmore. At the end of the second or third day the discharge from the nose becomes thicker, opaque and sero-purulent. This change in the character of the discharge marks the decline of the disease; the vessels of the nasal membrane decreasing in size allow the glands to enlarge and the retained mucus escapes, making the discharge thick, viscid and tenacious.

Coryza is often mistaken for hay-fever, a very different and separate disease. Hay-fever is a much more violent disease and is not an acute inflammation. Upon examination the lower turbinal bones in hay-fever are found to be a pale, "tallow" color, whereas in coryza they are a brilliant, or sometimes dull crimson, enormously swollen and covered with a glistening, thin, serous secretion.

Rhinitis of secondary syphilis has some of the characters of coryza, but is more chronic, has a more gradual onset and causes less sneezing.

In treating acute catarrhal rhinitis the hygiene should receive the first attention. Any existing constipation should be remedied by a laxative, as the combination of calomel, gr. ½, with podophyllum, gr. $^1/_{12}$, this being repeated every two hours until the movements are free. Every morning before rising the patient should take a wineglassful of some good saline water. The diet should be reduced in amount, starvation acting favorably to break a cold. At the onset a cold can generally be prevented by one or two hours of hard exercise; or a half to one tablespoonful of paregoric taken during the primary chill will often entirely check the oncoming cold.

Local treatment for coryza is essential after the contraction of the cold. In making such local applications the nasal mucous membrane should first be slightly sprayed by a 2 per cent. solution of cocaine, a very few whiffs from an atomizer. Then the nose should be thoroughly cleansed by spraying with Dobell's solution, the head being tilted backward to allow the solution to cover completely the floor of the nose. Dobell's solution is composed as follows:

℞ Sodii biboras, Sodii bicarb. aa..... ℥i
Acidi carbol. cryst.....gr. xv
Glycerini ..... fl ℥i
Aquæ ..... q. s. ad fl ℥iv
M. Sig. Add the above to a quart of water and then use in atomizer.

Folow the washing by an application of 2.4 per cent. cocaine solution, using a cotton application for sweeping the cocaine over the swollen turbinated bodies. Follow this by an insufflation of powdered sterate of zinc combined with menthol. In a later case there may be applied part of a half ounce of vaseline, which contains 24 grains of each cocaine and menthol. The patient should be directed to use an alkaline wash in an atomizer three or four times a day. When the epithelium is being thrown off an astringent is necessary, the fluid extract of wichhazel, ext. hamamelis fluidum, diluted with two volumes of water. Before applying such astringents always cocainize the nose at first, and then thoroughly cleanse the cavity. If a thick, tough secretion is still formed out after several days of treatment, a stimulant astringent is needed. In such a case Boulton's solution acts very well:

℞ Acidi carbolici cryst.....gr. xviii
Tinct. iodii comp.....fl℥i
Glycerini .....fl℥iss
Aquæ dist .....fl℥ii

M. Place in water bath of 100° until solution is colorless, being in tightly corked bottles. Filter. This is very useful both in acute and chronic rhinitis. Where there is a gouty or rheumatic tendency the general condition should be treated by salicylates as in

℞ Sodii salicylas..... ....gr. viii
Sodii bicarb .....gr. iiss
Vini colchici.....gtt v
M. in capsul I. aispens.

In sudden emergencies to break up a cold violently, the following is effective, having a violent, unpleasant action:

℞ Quinin. bisulph., Ammonii chloridi., Camphoræ aa..... gr. ss
Ext. aconiti., Ext. belladonnæ foliæ., Ext. opii aa.. gr. 110
M. Fiat in capsula I.

THE NEWER TREATMENT.

Dorsal Scoliosis.—This young woman suffers from a spinal curvature. This shows in a red line when the spinous processes are rubbed. When she leans forward the muscles on the right stand out. The spine is very movable. A great deal can be done by gymnastic treatment to develop the weak muscles and possibly by electricity. There is a rhachitic bulging of the chest; nothing can be done for this. You will notice a marked epigastric cavity. In one of my cases this depression was so marked that the sternum was almost in contact with the vertebræ, and it was almost impossible for the patient to swallow. In that case I made an incision and took out a piece of the sternum and the condition was greatly improved.

This patient should wear at least half an inch on her right heel. It is wise particularly in the young to overcorrect slightly the deformity.

She has certain questions here which she wishes us to answer. Shall she wear a brace? I think not. As a rule, with muscular exercise and massage and electricity, we can get rid of the neurasthenic part of it, and I would not have her wear a brace because the spine is perfectly flexible, and if we do put on a brace the muscles will begin to atrophy. Is the spinal trouble the cause of her stammering? I dont think there is any particular connection. Is it possible to get cured of stammering at Johnson Institute? I think it is. He used to be a paper-hanger, and stammered himself. He professed to discover some method of cure, and he has cured others. While I would not recommend him, I think he might do good. Can her nervousness be controlled by spinal treatment? I think the general condition will be much better after spinal treatment.

Double Sciatica of Malarial Origin.—The patient, a man aged 45, was found lying in bed, crying in anguish owing to the pains which were shooting down the backs of both legs and into the feet. This pain he described "as like that which would be caused by pouring melted iron down both legs." He had been suffering from similar attacks, although of milder character, on alternate days for a week past, and mentioned that they always commenced with a chill, followed by fever and sweating. The attack would last several hours and then pass off, leaving a feeling of soreness in the affected part. On this account malaria, of course, was at once thought of, and the opinion was confirmed when I was told that the patient had lately returned from the tropical regions, where he had several attacks of "ague." The pain was paroxysmal; the patient would have a brief interval of comparative quiet, then he would suddenly cry out, and the flexor muscles of the leg would contract spasmodically. In a few seconds he would be quiet again. The slightest movement of either leg would bring on another paroxysm of pain.

There was marked hyperesthesia, besides which painful points were especially marked at the sacro-iliac junctures in the popliteal spaces and back of the external and internal malleoli. The patient was also suffering from violent headache, the temperature was 104.3, and the spleen was enlarged. There was no history of syphilis, rheumatism or any other special cause for the sciatica.

He was ordered sulphate of quinine, gr. xxv, to be taken in divided doses during the night, and sulphate of morphine, gr ¼. The next day he was entirely free from pain, and his temperature was normal.

The quinine was kept up in smaller doses during the day, and gr. xx were ordered to be given on the following day about two hours before the paroxysm had usually occurred, with the result that he escaped the usual attack. Quinine, gr. v. t. d., and a mixture of arsenic and iron were taken for several months, after which he stopped the medicine.

In May last he had another attack which yielded to similar treatment, since which time he has enjoyed fair health.

This case presents two unusual features. First, both sciatic nerves were simultaneously affected, which, while it occasionally occurs, is far from common. Secondly, while malarial poisoning is a well known cause of neuralgia of the trigeminal and intercostal nerves, most authors give it no place as a cause for sciatica; indeed Erb says: "All authors consider it doubtful whether it can be induced by malarial infection, as a typical example of sciatica is extremely rare in periodic fevers."

On the other hand, however, Putzel says that the sciatica nerve is, next to the trigeminus, most frequently attacked. In spite of this assertion, while no doubt similar cases have occurred, I have been unable to find any report of one.

Diet in Treatment of Sciatica.—The diet is a matter which does not receive the attention its importance demands, says Dr. A. P. Williamson. Care in this direction is always fully repaid by the good effects produced. The food should be liquid and very nourishing. It is best given in small quantities and at frequent intervals. Pain is said to be the cry of the tissues for nourishment, and if its severity is a criterion of the quantity of food needed there can be little danger of overfeeding. Milk, with salt to aid its digestibility, especially when given hot, is the very best food to be found. Home-made broths come next, and then preparations of blood such as bovinine. The patient's palate may be consulted, but care is to be taken to avoid beef and uric acid-forming foods in general. In this connection it cannot be too frequently repeated that in all diseases of the rheumatic or gouty diathesis large quantities of hot water should always be given the patient, say from two to four quarts every twenty-four hours. The rectum should be flushed every day, or every other day, with large quantities of water as hot as can be comfortably borne.

Morphine in Puerperal Eclampsia.—J. B. Todd (*Philadelphia Med. Jour.*, Aug. 11, 1900) says that for controlling the convulsions nothing is equal to morphine if given in sufficiently large doses. From one-half to one and a half grains hypodermically should be given at the first dose, to be repeated whenever the patient complains of severe pain in the head, whether it has been one hour or longer since the last dose. In one case the morphine was given in increasing doses until from 5 to 9 A.M. on the second day she received four grains, and during the next 24 hours eight grains. She was not narcotized at any time, only quiet. The patient was two months pregnant at the time of her eclamptic attack, and recovered without aborting. Four months later a macerated fetus and the placenta were expelled. She has had three normal labors since.

Of the ten cases reported, six occurred after labor, and there was but a single convulsion—the hypodermic dose of morphine prevented the recurrence. All recovered. In two cases during labor morphine was used and both mothers and children lived. In one case abandoned by an eclectic, after convulsive attacks for twelve hours, the patient died a few minutes after the writer's arrival. The tenth case, occurring during pregnancy, is that already referred to.

The Medical Times.

A MONTHLY JOURNAL

OF

Medicine, Surgery, and Collateral Sciences.

EDITORS:

EGBERT GUERNSEY, M.D., LL.D. ALFRED KIMBALL HILLS, M.D.

Communications should be addressed to the MEDICAL TIMES, 180 West Fifty-ninth Street, Central Park South.

Published on the first of each month.

NEW YORK, JANUARY, 1901.

Changes of standing advertisements and communications in regard to that department, should be addressed to BENJ. LILLARD, Advertising Manager, 108 Fulton St., New York.

The man who thinks out what he has to do will win, and no others do, or ever have or can—God will not have it so.

THE STUDY OF BIOLOGY THE KEY-NOTE OF PROGRESS IN SCIENCE.

THE study of Biology is especially the foundation of a scientific medical profession, a study which ingestigates life as it is and seeks to evolve from a knowledge of the forces and laws brought into active play in its development and progress the secret of a healthy life and a vigorous physical and mental growth. Understanding the causes of molecular changes, we are led through pathological conditions, of which the symptoms are but the mirror, to the nature of the disease and find in the aberrent phenomena only life processes and our most efficient methods of cure, the adaptation and modification of the common laws of life. Often the only treatment necessary is a change of conditions easily brought about by a removal to a more healthy atmosphere, greater physical exercise, or a better adaptation of food to the requirements of the system.

It is an axiom first taught by the Greeks, but to a great extent forgotten or neglected in the nations which followed them, that a strong, vigorous and healthy mind required a harmonious development of the body, and the attempt to carry out that principle was in a measure so successful that it has given to the world those masterly productions in art and literature which have made them models of excellence, of beauty, of clear, vigorous and healthy thought to the present day.

Each organ is intended for its appropriate work, and its natural healthy development is essential to the harmonious working of the whole physical and mental organization. Weakness of one part, either through disease, overuse or lack of use, causes one faculty to dominate over another, producing physical and mental disturbances, and unless remedied lasting disease. The history of the world shows that well-balanced organizations can only bring out from the chaos of conjecture, of speculation and of ill-regulated thought, the good, the pure and the true, evolving and crystalizing with the aid of the divine influx flowing into and through them, placing in working order those great principles of truth, of justice and of equal rights which form the basis of all science, all true progress and all just government.

Systems of theology formulated and interpreted by men physically diseased or with one set of faculties held in vassalage to others and prevented from performing their proper functions, have been strongly tinctured with the pernicious effect of a diseased body and a poorly balanced mind. Calvin never would have formulated a theology so full of wrath, in which the flames of the pit were forever ascending, the groans of the damned forever ringing in the ears and the smell of brimstone forever in the nostrils, had it not been for a diseased liver and stomach which made him look upon everything with jaundiced eyes. Those who followed him with the cold and pitiless logic, which would people hell with the souls of infants not a span long, which sent thousands of men and women and children with high and noble aspirations writhing in that mental anguish which could only find utterance in groans and shrieks, to the confinement of the madhouse, not one of them possessed a healthy physical or mental organization. Thousands in every age of the world under the influence of a crude and unhealthy philosophy, the outgrowth of a diseased physical system and unbalanced mind, have looked upon their bodies as hindrances to the aspirations of the soul, to be neglected, sacrificed, crushed for the sake of spiritual truths. What have they given us? What that has survived or will survive the tooth of time, the pitiless logic of a more healthy reasoning, the crucible of a higher philosophy which relentlessly burns out the dross of immature thought, leaving the small grains of truth to be incorporated into a different setting; what but fragments which the more healthy mind has seized and given a fitting place in a broader system of philosophy where they can perform more appropriate work as a part instead of the whole. To insure well-regulated minds well-regulated physical bodies are absolutely essential in which the surroundings, the nutriment, the training, all look to one point—the highest development of the mental and physical organization, and through them the perfection of that life which no man has yet fully comprehended, embodied in the soul, which we believe to be immortal, carrying with it not only here, but when it has passed out of its material environment, the impress and influence of its earthly surroundings whether good or bad.

From this line of reasoning it is easily seen how closely linked together in their studies and in their work are the two great professions of medicine and theology. The basis of both is an intelligent study and understanding of the laws of life. The physical, the mental and spiritual are such a trinity in one, so interwoven with

each other that they cannot in this life, in their influence and work, be separated. The theologian and the physician alike fail to comprehend the grandeur of their work, the vastness of their profession if they do not realize, to a certain extent, the influence which one part has over another in this trinity of man. The growth and beauty and perfection of one is so closely linked and interwoven with all, one helping the other that the highest needs of the soul can only be reached through the care of all. The law of heredity is not alone confined to the transmission of traits of character and the seeds of physical disorganization from one generation to another, but goes back to animal life, ever developing into higher forms, until man, the most perfect of all, is reached. And when man shall have so far become evolved from the inherited traits of the brute creation that nothing of the brute remains in his character, when the last trace of original sin, the brute inheritance which is found in us all shall have been left behind in the progress of manhood towards its higher, more perfect and harmonious life, then will be fulfilled the prophesy of the time when man in his perfected state shall justly rank as sons of God.

As we begin to comprehend the truth of evolution in its strength and beauty we rise to higher views of the workings of God and catch for the first time a glimpse of that stupendous plan commencing in the far distant ages with the first particle of life on our planet and passing through successive steps of development into higher and higher form to man, the highest of all, as the goal towards which nature's work has all the time been tending. Looking back over the nineteenth century as the clock of time tolls its passing hours and ushers in the new century, we seem to be standing on the threshold of a new world faintly catching those vibrations which in unfolding the laws of nature are making man the master in utilizing their forces.

A NEW TREATMENT FOR CANCER.

THE past few years have been rich in the practical results following experiments along strictly scientific lines, and as the 20th century dawns upon us we have a firmer grasp and a clearer insight into many of the great problems of pestilential and malignant diseases which have so long baffled the ablest scientists in our profession. The studies of the etiology and development of diphtheria, typhoid fever, yellow fever, malaria, rabies, and bubonic plague have given us, to a limited extent only, a mastery of their prevention and therapeutic treatment never obtained before. No infallible specific has ever been obtained, for any disease; the nearest perhaps is quinine for malaria, but the ratio of cures made by certain remedies and along certain lines of treatment shows clearly the active forces of so-called specific medication in certain conditions of the system where all other forms of medication have failed. In the light of recent investigations, which are yielding such rich results, we were not surprised at the claim that the same line of scientific inquiry in reference to malignant tumors was placing those diseases, which have heretofore been the *bête noire* of our profession on the list of curable diseases. This, Dr. Alexander of Concord, N. H., the author of the Alexander treatment for malignant growths, claims is true in reference to those malignant growths which come under the general head of cancer, and which have heretofore been to a very great extent incurable, the removal by the knife relieving only the local trouble but giving no assurance that the disease will not be developed at a later day in some other part of the body.

Internal treatment thus far, as well as escharotics in well defined cancer, have in most cases served only to partially relieve or retard the growth, which was almost sure to develop if life was spared, at a later day. The Vienna paste, the red clover, the phrenic acid and other so-called specifics, popular for a time, have failed to meet the earnest hope of the public.

Dr. Alexander claims that the remedy he has used for the past few years in scores of cases with such results that the ratio of positive cures attested by unimpeachable authority is more than 25 per cent., and marked relief, more than 75 per cent. The diagnosis of these cases was in every instance reached through the almost if not quite infallible test of the microscope, the cancer cell, unlike any other in every case being distinctively marked. Many of these cases, both before and after an operation, were given up by the attending surgeons as entirely hopeless.

The etiology of cancer and its development and dissemination has hitherto been so obscure that even the many years of close observation have failed to penetrate its cellular mystery. We know that there is a pathological growth consisting of epithelial cells held in the meshes of a connecting tissue of network, to a certain extent independent. There must be some conditions of the body to lead to the formation of these cells following perhaps some local injury, at first non-malignant, but in a longer or shorter time developing the true cancer cells, some factor through which a benign growth assumed a malignant type. That mystery Dr. Alexander claims to a certain extent to have solved in a remedy which produces such complete asepsis as not only to destroy the poison which produced the cancer cell, but to starve out the cells themselves by withdrawing the supply of nutrition until they become withered and dead. Whether this theory is correct or not, the remedy has certainly some power to work results never obtained before.

The solution which forms the basis of Dr. Alexanders treatment is insoluble in water, but soluble in alcohol and used hypodermically, is attended with no pain or irritation. It is derived from a union of hydrocarbons and a dimethyl ketone to which is added essential oils forming a chemical solution represented by the formula $C_{21}H_{17}O_2$.

Possibly the combination produces a new salt, but its

manipulation unless in the hands of a skilled chemist, may not only destroy its value, but produce an escharotic instead of a non-irritating mixture.

Our readers familiar with chemical formulæ will understand that dimethyl-ether-ethane is a colorless, gaseous compound C_2H_6 of the parafine series contained in the gases given by petroleum and in illuminating gas. Ketone is one of the class of organic compounds in which the group carbonyl [C. O.] unites with two alcoholic radicals. It is usually derived by removing the group hydroxyl [O. H.] from the group carboxyl [C. O. O. H.] and replacing it with an alcoholic radical. In this way from dimethyl-ether we get dimethyl-ketone, the union of which with hydro-carbon and essential oils gives us the remedy of Dr. Alexander. The very positive results which Dr. Alexander claims to have obtained from his treatment and which seems to have been indorsed by the most positive testimony appeals very strongly to the medical profession to put it to the most thorough test in controlling those malignant growths for which heretofore there has been found no adequate remedy. Dr. Alexander also claims that the introduction of the fluid by the hypodermic needle is a diagnostic test of the character of the tumor. If it is not malignant marked disturbance is produced in the system, which does not occur if the tumor is of a malignant type.

SUGGESTIVE ORIGIN OF MEDICAL TERMS.

THE origin of many of the terms used in our profession and the comparison of their original meaning and derivation with the interpretations at present given to them gives us an interesting idea of the arbitrary way in which these terms once given still retain their place in the nomenclature of our profession.

The word artery, from the Greek *aorta*, is derived from the notion that these vessels carried not blood but air. The ignorance in matters af anatomy leads as a matter of course to strange notions of pathological processes which we borrow from the etymology of modern medical terms. Thus the pathological process was considered the expression of a struggle between the individual and the disease that had entered his body. This is the reason why many Greek terms are common both to tactics and to medicine. As for instance the word prophylactic signifies the placing of a sentinel against the enemy; symptoms in accidents of a combat and syncope means the bad issue of a battle—a powerful blow—a term used to-day for the collapse of the sick, but whose recovery is still possible. Agony means originally the close fight in battle; crisis was the final decision of the combatants from which they came out either as victors or vanquished on the day of the battle in general; and diagnosis signifies the attempt of recognizing the result of a combat. All these expressions are designations of incidents in a combat such as described by Homer.

The primitive man cannot conceive of the development of disease and death within the individual and therefore attribute internal suffering to external forces. Thus the Greek word "Kophos" is derived from "kopto," to beat; the Latin "Plaga" the blow becomes in the English plague, the name for pestilence; and the word apoplexy is derived from "apoplesso," to hit from afar. When they could not perceive any material or immediate cause of a disease they ascribed it to the invisible arrows with which the Gods warned or punished men. The moon worshiped as a divinity was the patron saint of the insane. Mania is derived from "mene," moon, and lunatics are designations of the mentally diseasesd. The influence of the close relation between medicine, art and religion is also felt in therapeutics. Many herbs to which curative powers are ascribed were named after gods or saints.

Thus even to-day an herb believed to have the property of strengthening the weak womb is called artemisia, from the goddess Artemis. The resemblance between certain parts of the human body and organic or inorganic natural objects gave use to the establishment of a strange principle in certain methods of cure. Traces of this ancient principle are found to-day in the names of certain remedies. Lichens have in Greek a name which also stands for scaly eruptions; the cretaceous formations in which some lichens appear resemble the scales and crust of some skin diseases, and on this account were used as remedies. The nymphea (water lily), on account of the beautiful white of its blossom, was considered an anti-aphrodisiac.

The pulmonaria and the lichen-pulmonaria (linkwood) have their name from the whitish spots on their leaves, which similarly are found on the surface of healthy lungs, and therefore were used in the treatment of lung diseases. These facts are interesting, as they show that the suggestive ideas of primitive medicine have been reproduced in these later days.

Therapeutics based upon homologies have been revived by Brown-Séquard and led to the discovery and application of the inner secretions of the organs. Diseases caused by the cessation or weakening of a function are cured or improved by taking internally the respective organs or animals, the thyroid gland, ovaries, etc.; even the amulets seem to have revived again in the metallic therapy in the application of metal plaques to paralysis or aching nerves. These retrospects, showing as they do the connection between empiricism and science, should remind us that many things upon which we look to-day with contempt, nevertheless may contain some element of truth or at least can offer the student in the line of suggestive material for reflection which may point the way to practical and scientific results.

ARSENIC NOT AN ELEMENT.

PROFESSOR FITTLER, a French chemist, claims to have demonstrated that arsenic is not an element by itself but a compound of phosphorus. The black substance formed under the action of gaseous ammonia was considered to be an allotropic

form, but is now shown to be nothing else but arsenic. Dr. Fittler thinks this shows that this is not an element itself but a compound of phosphorus probably with nitrogen and oxygen, PN_2O.

If this is true, arsenic belongs to the same catalogue as ammonium, which also combines with other bodies as a base and yet is itself a compound of oxygen and nitrogen. Chemical investigation is frequently resolving many supposed elements into compounds, showing the possibility of all elements being developed from one primordial element by a different arrangement of atoms and molecules. The discovery of Professor Fittler accounts to a certain extent for a marked resemblance in their therapeutic action of phosphorus, arsenic and antimony, which was pointed out by Hahnemann among his earlier proving of drugs, and which every careful student of materia medica has not failed to notice.

SOME DEATHS FROM VIOLENCE.

FOUR deaths from football, and one the result of hazing, are the reports of a single day!

The boys tell us there is no danger in football if properly played, but we cannot believe the statement, as accidents are constantly occurring even with the most expert players. In behalf of hazing there is no justification whatever, and we are glad to observe that thorough investigation is to be made by the Secretary of War in the case which claims to have happened at West Point.

Such tradition as hazing is no honor to any institution, and the sooner this is realized, the better for all concerned. The Naval Academy claims to have broken it up, and West Point can do likewise if it will.

There is a law against hazing, but it is not strictly enforced, perhaps now Congress will see that it is.

The famous Whittaker case with its shocking mutilation is still fresh in our minds, and this leads us to suspect there may be other similar ones. Dismissal of the ring-leaders is the least that any institution could be expected to do.

It must be a high state of civilization and breeding which would admit of the following occurrence, which we quote from the *Mail and Express* of December 8:

"You know," said an ex-army officer, "that not more than 1 per cent. of the hazing cases at the Military Academy become public propery. It may seem odd to some to invoke the aid of a court-martial to punish individual pranks, but these pranks are responsible for about four-fifths of the hazing at the Military Academy. I remember when I was a plebe I was going up to West Point one day on the Hudson river with three other plebes. We met a tall, sallow-looking chap and struck up a conversation with him.

"Two things about him that struck me with great force were a big black cigar that he smoked, and his conceit. I asked him if he knew anything about the Military Academy. He said he guessed he did. He was going up there, he added, and he talked so much about military affairs that I said something about his having a friend up there and that perhaps he was going to visit him.

"'Yes, said my friend of the cigar, 'I have several friends up there. I ought to have a few, as I have been in the academy for about four years.'

"The next time I met him was on Flirtation walk, and he said:

"'See here, you; take your hat off. You are the fresh rooster that came up on the boat with me. Put a handle to my name in addressing me, and always sir me in future. Do you understand?'

"What struck me this time was the way in which he grabbed me about the collar, and the polite, inoffensive way in which a half-dozen of his companions threw me down, tore off my clothes, smeared me with tar and feathers and made me stand naked in the open air for four autumnal hours. I was laid up four weeks as a result of this hazing. I never want another. I bear the marks yet, and that is why I want no son of mine hazed and why I think the authorities at West Point ought to stop the practice. They could do so had they a mind to."

A TEMPTATION.

THE profession is again being flooded by a proprietary medicine company, with circular letters offering to give shares of stock in its corporation to all such as satisfactorily answer the questions as to their ability to prescribe its products.

This is another attempt to degrade the profession by bribery! Men who will make such offers as this must have a low estimate of the average physician, but some will be caught, without thinking of the position they are placing themselves in. The physician who is interested financially in the production of any article should never, if he wants to remain pure and honest, prescribe the remedy the sale of which will put money in his pocket.

There is already much of this sort of thing done in one way and another, always to the moral degradation of the physician. We could detail many instances in which the wily promoter has attempted to inveigle men into his corporation, with the promise of large dividends upon its capital stock, but we should always resist such temptation as some have, although we are told the majority have fallen a prey to it. One cannot be too careful in these days of deception if honor and integrity are to remain unsullied. We are met at almost every turn with a tempter in some guise.

THE murder of King Humbert suggested to a permanent statistician of Berlin the idea of a comparison of the crime of murder in countries in which societies existed for the protection of animals with those in which animals are treated with the most cruelty. The result is what might be expected. He found in England and Ireland in many millions of inhabitants there

were only six murders during the year; in Germany, 11; in Belgium, 14; in France, 16; in Austria, 23; in Hungary, 67; in Spain, 83; in Italy, 95. In no country, he says, in Europe are animals treated with more kindness than in Great Britain, and with more cruelty than in Italy and the treatment accorded to them in other countries may be fairly guaged according to the number of murders committed in them.

PAVILION FOR TUBERCULOUS CASES IN HOSPITALS AND PRISONS.

THE proposed action of our efficient Commissioner of Charities, Hon. John W. Kellar, in placing the tuberculous patients cared for by his department in a pavilion by themselves instead of in separate wards in the general hospital, as at present, meets with the warmest approval not only of the entire profession but of the general public. The public, especially those in control of hospitals and prisons where large numbers are congregated, are beginning to realize the necessity of separating the consumptives from the non-consumptives as a matter of safety and efficient treatment.

In the Reformatory at Elmira, under the new administration, features have been eliminated which primarily tended toward the propagation of tuberculosis, and measures also have been taken to check the development of insanity among the inmates, with such a surprising result that inasmuch as in the last year of the old administration there were many cases confined in cells and fed on bread and water, all of which have been sent to asylums, at the present time there is not a single case in the institution.

In the Penitentiary of Ohio the percentage of deaths caused by consumption was 31; in Alabama, 42; in Virginia, 41; Kentucky, 42; Joliet, 70; Texas, 66; in Connecticut, in 1898, 60 per cent., and in 1897 every death in the penitentiary was caused by consumption. Thus our prisons are a death-trap in which the comparatively healthy are brought in close contact with and breathe the same air as the consumptive, freighted more or less with death germs ripening when too late for help into a harvest of death. Keep these two classes apart, with the utmost care in detecting consumption in its early stages, using the appropriate remedies and surrounding them as far as possible with healthy sanitary influences and the law, while exercising its just right in depriving the criminal of his liberty, does not exceed that right in making his place of confinement a death-trap.

WHAT NEXT?

IT IS but little over a year since the world was startled with the results of the discovery of Marconi, the Italian scientist, of wireless telegraphy, whereby telegraphic communications could be made for a considerable distance without wires, but requiring poles of a certain height according to the intervening space. According to the *London Daily Express*, Marconi has improved upon his previous discovery so that by a new apparatus the air waves can be lengthened to an almost indefinite extent and controlled by the same device. Sound will be made to travel close to the surface of the ocean, requiring no tall masts, but only an elevation not higher than some of our city houses, with about two hundred feet of wire to each mast, which are called attenea or feelers. With this device of Marconi it is claimed that before Christmas of the new century America and Great Britain will be on speaking terms, and that the President, from his study in the White House at Washington, may hold conversation with General Wood in Cuba or General MacArthur at Manila without the help of the submarine telegraph. If this should prove nothing more than a dream its accomplishment would not be more wonderful than other discoveries made within the last few years.

HOSPITAL CHANGES.

THE charter revision commission of Greater New York recommends among other changes in the present charter that on February 1, 1902, the management of Bellevue Hospital, including its subsidiary hospitals, Gouverneur, Harlem and Fordham Hospitals, and the Emergency Hospital for Women, shall be taken from the Department of Public Charities and be vested in a board of trustees appointed by the Mayor. The reason assigned for this change is that these hospitals are not strictly pauper hospitals, but come more under the head of accident or emergency hospitals, the pauper element being removed as soon as possible to the hospitals specially provided for them.

RABIES.

EIGHT or ten deaths have been reported in this city during the past year from hydrophobia, a greater number than in any previous year.

This increase of deaths has led to a resolution of the Board of Health that all persons bitten by dogs supposed to be rabid are requested to have the wound cauterized at once and report immediately to the Board of Health when they will receive the Pasteur treatmnt free at the special laboratory which is now being prepared in the Willard Parker Hospital.

This treatment has been so successful that when taken in time it may be considered almost a specific.

EDITORIAL CRITICISM.

ELBERT HUBBARD of the Roycroftus, East Aurora, New York, in the November issue of the *Philistine*, of which he is editor, pays his respects to a brother editor in Philadelphia in the following characteristic Philistine style:

"Every person who practices medicine must secure a license from the State. This is a suggestion that is no new thing. It has remained, however, for one Dr. Gould, who belongs both to the Fifteenth Century and Philadelphia to demand the passing of a law that shall make the belief in Christian Science a misdemeanor.

The doctor takes himself and his glorious science of experiment seriously as in his many strenuous attempts to sic the dogs of law upon the 'irregulars.' He is sincere and also serious—so was John Calvin, who burned Servetus; the man who trapped the gentle Erasimus was sincere, so were the men who piled the fagots at the feet of the Maid of Orleans, and those other educated gentlemen who made Galileo retract—all sincere. It has been the sincere men who have placed scarlet of shame on the breast of love and innocence, worked the guillotine over time and organized hangmen in double shifts.

"Yes, Dr. Gould is sincere—would to God his tongue were in his cheek!

"Oh, that he would exchange his bloody scalpel and box of poisons for a fool's wand, just a little with Touchstone, Costard and Jacques on the green. Sincerity without sympathy is devilish; learning without pity is to be avoided; education without humor is preposterous. What the world needs now is not more sincerity, but more kindness. To be kind—just that old divine emotion of pity—just the simple art of being kind! and then above all let us not forget how to laugh."

In our Editorial, on page 337, November, 1900, issue, on "Photographing through the Human Body," our statement that "the experiment made under the direction of Dr. J. W. Kinnie at Fort Dodge, Iowa," should read Dr. J. W. Kime, for to this gentleman belongs the credit of an important discovery.

BIBLIOGRAPHICAL.

THE PHYSICIANS' VISITING LIST FOR 1901. Fiftieth year of its publication. Philadelphia: P. Blakiston's Son & Co. Price $1 to $2.25, according to size.

We need simply to call attention to the fact of the continuance of this publication, which is excelled by none of its class. It is perfection.

UROPOIETIC DISEASES. By Bukk G. Carleton, M.D. Second edition, with 33 photomicrographics and 6 lencotype figures. New York: Boericke & Runyon, 1900.

Notwithstanding this volume is noted as a second edition, the large increase of matter, including the disorders of the bladder, and the incorporation of much new material, particularly on the etiology of Bright's disease and uremia, really gives it the importance of a new work and justifies the author in changing its name from the "Medical and Surgical Diseases of the Kidney and Ureters" to its present title "Uropoietic Diseases." What the author has to say is directly to the point, embodying not only research but the experience and analysis of a thoughtful, practical mind. Within the past few years much new light has been cast upon uremia, to which the author does full justice in his chapter upon that subject. The chapter on vesical calculi, by Dr. William Francis Honan, is a scholarly presentation of the subject by an accomplished surgeon and scientist who is evidently thoroughly familiar with all its details. Dr. George W. Roberts gives a very clear and valuable presentation of cystoscopy as applied to the cystoscopy diagnosis and treatment of urinary diseases in women, and Dr. E. D. Klots, curator of the Metropolitan Museum, has furnished well-written chapters on urinary analysis and photomicographs.

The book reflects great credit upon author and publisher and will be welcomed by men of all schools.

MODERN SURGERY, GENERAL AND OPERATIVE. By John Chalmers DaCosta, M.D., with 493 illustrations. Third edition, uncut and enlarged. W. B. Saunders & Co. *Cloth* $5.00. 1900.

The third edition of Dr. DaCosta's work on surgery has been carefully revised and much new matter added, but the original plan was found so satisfactory that in that particular no change has been made. As a clear and forcible writer, especially lucid in diagnosis, Dr. DaCosta has no superior, and the present volume is an admirable specimen of his painstaking, thoughtful and scientific work.

The third volume of "Progressive Medicine," September, 1900, published by Lea Brothers, contains

1. A treatise of 125 pages on diseases of the thorax and its viscera, including the heart and the lungs, by William Ewart, M.D., F.R.C.P.

2. A treatise on diseases of the skin, of 60 pages, by Henry W. Stellwagon, M.D.

3. A treatise on diseases of the nervous system, of 110 pages, by William G. Speller, M.D., and a treatise on obstetrics, of 100 pages, by Richard C. Norris, M.D.

The plan of this publication, appearing quarterly in one large volume of 400 pages or more, giving concisely the latest and best thoughts and experience of the profession upon the subject discussed, brings the whole profession in rapport, all sharing alike of what is new and good.

SAUNDERS' QUESTION COMPEND NO. 25—ESSENTIALS OF HISTOLOGY. By Louis Leroy, B.S., M.D. 72 illustrations. W. B. Saunders & Co.

Like the other volumes of this series, of which 175,000 copies have been issued, in the form of questions and answers, the most important points of the subjects headed are clearly set forth in such compact form as to be easy of remembrance. Not only to the student, but to the physician, they are a great saving of time and labor for daily consultation.

A TEXTBOOK OF PATHOLOGY. By Alfred Stiegel, M.D., with 372 illustrations. Third edition, revised. W. B. Saunders, 1900. *Cloth* $5.

The subject of Pathology is presented in as practical a form as possible, and always from the point of view of the clinical pathologist, and therefore marked prominence is given to pathologic psychology. The present edition has been thoroughly revised, bringing the subject matter up to date. The student will find no work on pathology more clear of comprehension or more useful in his studies than the revised edition of Stiegel.

DICTIONARY OF MEDICAL SCIENCE. By Robley Dunglison, M.D., LL.D. Twenty-second edition, with appendix, thoroughly revised and greatly enlarged, and with the pronunciation, accentuation and derivation of the terms, by Richard J. Dunglison, A.M., M.D. Lea Brothers & Co., 1900.

More than seventy years have passed since Dr. Dunglison gave to the English-speaking world its first standard of medical lexicography. The succeeding edi-

tions have kept pace in new words and fulness of definition with the advance of medical science in all its departments. The twentieth edition of this work contained 6,000 new words. The twenty-first, issued seven years ago, increases the number by forty-four thousand; a few years later two thousand were added, which have now grown to about fifteen thousand, bringing the volumes up to the present state of the many sciences embraced in the word medicine.

Its purpose has been construed so broadly that the work may be consulted with as much confidence by the dentist and the veterinarian as of the student of medicine.

The addition under Bacterium, Bacillus, Micrococcus, Streptococcus, Spirilum and kindred subjects, as well as Materia Medica, Therapeutics and Synthetic Chemistry called for by the progress of science and fully up to the present time in definition and pronunciation. The author claims that he has endeavored to make the work "not a mere lexicon of terms, but to afford under each a condensed view of its various medical relations, and thus render it an epitome of the existing conditions of Medical Science.

Rhinology, Laryngology and Otology and Their Significance in Medicine. By E. P. Freidrich, M.D. Authorized translation from the German; edited by Holbrook Curtis, M.D. W. B. Saunders & Co., 1900.

The publishers have been fortunate in securing the services of Dr. Curtis, whose standing as a specialist in his department of science is second to no other in the United States, as the edition of Friedrich's masterly work, so rich in statistics and references, so learned in its argumentative deductions and at the same time so convincing in the manner of conservative presentation that no specialist or general practitioner can afford to neglect the opportunity of acquainting himself with the subject matter of his work. The chapters treating on nervous diseases, are rich in new material, as are also those upon the exanthemata and their sequels. The work does not pretend to be a special text-book in the ordinary sense, but is intended to awaken the interest of both the general practitioner and the specialist in certain matters which demand special attention and elaboration.

Modern Medicine. By Julius L. Salinger, M.D., and Frederick J. Kaltayer, M.D. Illustrated. W. B. Saunders & Co., 1900.

The authors have combined in *one volume*, as far as possible, the essentials of various specialties as applied to clinical medicine, such as physical diagnosis, bacteriology, the examination of the gastric contents, the urine, the blood, the feces, etc., which have usually required separate volumes.

The arrangement of the special topics has been adapted to prevent repetition, to present as concise a description of allied subjects as possible and to unite more closely the various divisions. The aim of the authors has been to give the main facts in regard to etiology, pathology, symptomatology, diagnosis, prognosis and treatment as considered from a modern and generally accepted standpoint.

A Treatise on Diseases of the Nose and Throat. By Ernest L. Shurly, M.D. Illustrated. D. Appleton & Co., 1900.

This volume has been prepared for the general practitioner and medical student rather than for the specialist in laryngology, and therefore the ideas and facts pertaining to the various subjects are discussed from the standpoint of practical experience and observation. The chapters and subjects have been arranged according to a classification based upon the general nature of the disease treated rather than according to the anatomical region involved. The operations upon the external nose and maxillary have been excluded as belonging to the domain of general surgery. Especial attention has been given to therapeutics, affording a sufficient range for indicating different plans of treatment. We notice with great satisfaction the etiology, pathology, treatment and illustrations of ethmoid diseases, so common in general practise, commencing with catarrh, and often ending disastrously through neglect of intelligent treatment. The thorough manner in which the subject is discussed and the treatment given will prove of great help to the general practitioner. An extensive formulary and chapter on local treatment is given for the convenience of ready reference. The work fills a much needed space in the literature for the general practitioner and medical student as a reference book in the round of general practice where the trained skill of the specialist is not

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A Practical Treatise on Genito-Urinary and Venereal Diseases and Syphilis. By Robert W. Taylor, A.M., M.D. Second edition, thoroughly revised with 138 illustrations and 27 plates in color and monotones. Lea Brothers & Co., 1900.

Dr. Taylor's well known ability as a clinical teacher in the College of Physicians and Surgeons, and the immense number of cases of genito-urinary and venereal diseases in every stage and in every variety brought under his official care in the wards of Bellevue and Charity Hospitals has enabled him to present an unpleasant and difficult subject most acceptable to the profession. Dr. Taylor is to be congratulated on a style peculiarly clear and concise and a masterly grouping of facts in which the salient points are brought out in the most impressive manner without unnecessary words. The subjects of urinalysis, bacteriology and anatomy have been treated in a practical and succinct manner. The various genito-urinary affections have received full consideration both surgically and therapeutically. Gonorrhea and syphilis in all their phases have been exhaustively presented, and treatment full and practical given. The illustrations contribute very much to the proper understanding of the subjects treated.

A Manual of Hygiene and Sanitation. By Seneca Egbert, A.M., M.D., Professor of Hygiene and Dean of the Medico-Chirurgical College of Philadelphia; member of the Academy of Natural Sciences of Philadelphia; member of the American Medical Association, etc., etc. Second edition, enlarged and thoroughly revised. Illustrated with 77 engravings. Pp. 436, 12mo. Lea Brothers & Co., Philadelphia and New York, 1900.

The author has added to the second edition of his valuable work a chapter on Military Hygiene to round out his classical effort, increasing the volume by 65 pages.

The text has been carefully revised and much entirely re-written, in order to make it clearer for teaching purposes. The book has been well received, as will be seen by the rapid disposal of the first edition.

It is one of the best books on the subject, with which we are familiar, both for the student and the general practitioner.

STUDIES IN THE PSYCHOLOGY OF SEX. The Evolution of Modesty.—The Phenomena of Sexual Periodicity.—Auto-Erotism. By Havelock Ellis. 6⅜ x 8⅞ inches. Pages xii—275. Extra cloth. $2.00 net. Sold only to physicians and lawyers. F. A. Davis Company, publishers, 1914-16 Cherry street, Philadelphia.

The author has included in this volume three studies which seem to be necessary to that analysis of the sexual instinct which must form a chief part of an investigation into the physiology of sex. The first sketches the main outlines of a complex emotional state which is of fundamental importance in sexual psychology; the second bringing together evidence from widely different regions, suggests a tentative explanation of facts that are still imperfectly known; the third attempts to show that even in the fields where we assume our knowledge to be adequate a broader view of the phenomena teaches us to suspend judgment and to adopt a more cautious attitude. The special use of these studies as an introduction to a more comprehensive analysis of sexual phenomena is that they bring before us, under varying aspects, a characteristic which though often ignored is of the first importance in obtaining a clear understanding of the facts; the tendency of the sexual impulse to appear in a spontaneous and to some extent periodic manner affecting women differently from men. The writer has brought together a vast array of facts and submitted them to a keen analysis, giving us a work full of valuable information and important suggestions to the jurist and the physician.

MANUAL OF PATHOLOGY, INCLUDING BACTERIOLOGY, THE TECHNIC OF POSTMORTEMS, AND METHODS OF PATHOLOGIC RESEARCH. By W. M. Late Coplin, M.D., Professor of Pathology and Bacteriology, Jefferson Medical College, Philadelphia; Pathologist to Jefferson Medical College Hospital and to the Philadelphia (Blockley) Hospital; Bacteriologist to the Pennsylvania State Board of Health. Third edition, revised and enlarged. 330 illustrations and 7 colored plates. Octavo, 846 pages. $3.50 net. P. Blakiston's Son & Co., Philadelphia, Pa.

The third edition of Dr. Coplin's Manual of Pathology is practically a new book. The first edition contained 250 pages and 51 illustrations, while the present valume has 638 pages and 268 engravings. With this large edition of new matter and a thorough revision of the old. The plan of the book remains the same. It is not simply a treatise of book of reference, but as a manual, a guide in the laboratory and the postmortem room and in the clinical diagnosis by the aid of microscope it will be of great value.

A TREATISE ON MENTAL DISEASES based upon the lecture course at the Johns Hopkins University, 1899, and designed for the use of practitioners and students of medicine. By Henry J. Berkley, M.D., Clinical Professor of Psychiatry, the Johns Hopkins University, chief visiting physician to the City Insane Asylum, Baltimore. With frontispiece, lithographic plates and illustrations in the text. D. Appleton & Co., 1900.

The work is of special value to the general practitioner, as it embodies a consideration in a peculiarly lucid manner of all the principal forms of psychical disturbance.

Part I. is devoted to the anatomy and histology of the central nervous system. In section 1 of Part II. the boundary lines between degenerative and non-degenerative types of insanity are given, and the rest of Part II. devoted to a very clear presentation of general pathology. In Part III. the clinical forms of mental disease are discussed with special symptomatology, etiology, pathology and therapy; including idiopathic insanities, insanities without ascertainable alteration of the brain structure; nsanities caused by organic lesions of the cerebral substance; insanities following bacterial and toxal bumic poisoning; insanities of the psychical degenerate, psychosis accompanying or following constitutional neuroses; states of arrested physical development.

As a thoroughly scientific and practical work the treatise has no superior.

A PRACTICAL TREATISE ON MEDICAL DIAGNOSIS FOR STUDENTS AND PHYSICIANS. By John H. Musser, M.D., Professor of Clinical Medicine in the University of Pennsylvania; Physician to the Philadelphia and the Presbyterian Hospitals; Consulting Physician to the Woman's Hospital of Philadelphia and the West Philadelphia Hospital for Women; Fellow of the College of Physicians of Philadelphia; member of the Association of American Physicians, etc. Fourth edition, revised and enlarged. Illustrated with 250 woodcuts and 49 colored plates. Lea Brothers & Co., Philadelphia and New York, 1900. Pp. 1105, octavo.

This valuable work, which has rapidly exhausted its previous editions, now appears again after thorough revision and the addition of many new illustrations.

Precision in diagnosis becomes comparatively easy with such a book at your elbow, and one can equip his own laboratory, and thus simplify his practice, and increase its success, without sending patients away for examination and diagnosis if he will familiarize himself with the contents of its pages. The value of clinical laboratory and bacteriological diagnosis is sufficiently understood to appreciate such a work as this is, and the evidence of its value has been shown in the promptness with which the editions have been taken up.

It is pre-eminently a book for the practitioner because it enables accuracy and completeness in diagnosis.

It has been the aim of the author to deal with his subject in a clear and concise manner, with abundant illustration, to the end that he might provide a practical working knowledge of one of the most important branches of science and art.

ELECTRO-THERAPEUTICS AND X-RAYS. By Charles Sinclare Elliott. $2.50. Boericke & Tafel, 1900.

The author has aimed in this work and with great success, to place before his readers in as brief plain and simple manner as possible the best and latest methods of applying the various currents of electricity.

1. Each current and the general indications calling for that particular current is given.

2. The various diseases for which electricity is applicable are given with the special current called for, its strength, duration of sitting and frequency of application.

In the chapter on X-rays a minute detail is given of the preparation of the apparatus and the method of taking radiograph and of making fluoroscope examinations.

PATHOLOGY AND MORBID ANATOMY. By T. Henry Green, M.D., F.R.C.P., physician and special lecturer on clinical medicine at Charing Cross Hospital; and Senior Physician to the Hospital for Consumption and Diseases of the Chest, Brompton. Revised and enlarged by H. Montague Murray, M.D., F.R.C.P., Physician to Out-patients, and Lecturer on Pathology and Morbid Anatomy at Charing Cross Hospital. Ninth American revised from the ninth English edition. By Walton Martin, Ph.B., M.D., Assistant Demonstrator of Anatomy, College of Physicians and Surgeons, Columbia University; Attending Surgeon to the Out-patient department, Roosevelt Hospital. With 4 colored plates and 339 illustrations. Lea Brothers & Co., Philadelphia and New York, 1900. Pp. 586, octavo.

"Green's Pathology" is so well known, that it is only necessary to say that the present edition has been most thoroughly revised, nearly half the subject matter re-written, the text rearranged, new sections and 180 new illustrations added, the whole adapted to American students by Dr. Walton Martin, who is responsible for the chapters on malaria and on the blood.

In order to keep abreast the times, it would seem necessary to have this edition even if one has an older edition, it is so changed and improved. This book has always been considered classical, and one reason for its popularity is the ease with which the text is studied—it is in such plain language, and withal so concisely stated. The book is worthy of its reputation. The physical part is in the publisher's best art.

LEA'S SERIES OF POCKET TEXT-BOOKS—EYE, EAR, NOSE AND THROAT.—A manual for students and practitioners. By William Lincoln Ballenger, M.D., Assistant Professor of Otology, Rhinology and Laryngology in the College of Medicine of the University of Illinois; Professor of Otology, Rhinology and Laryngology in the Chicago Eye, Ear, Nose and Throat (post-graduate) College, etc., etc., and A. G. Wippern, M.D., Professor of Ophthalmology and Otology, Chicago Eye, Ear, Nose and Throat College. Series edited by Bern B. Gallaudet, M.D., Demonstrator of Anatomy and Instructor in Surgery, College of Physicians and Surgeons, New York, etc. Illustrated with 150 engravings and 6 colored plates. Lea Brothers & Co., Philadelphia and New York. Pp. 512 octavo.

This book will not only be found of immense service to the student, but of the greatest use to the general practitioner as a hand-book. It is thoroughly up to date in every respect, concise, clear and practical. It is worthy an examination by any one interested.

The Edgar S. Werner Publishing and Supply Company have recently issued two small volumes of interest not only to the medical profession but to all educators and the general public. SPEECH *HESITATION*, by E. J. Ellory Thorpe, treats of a subject with which we are brought in frequent contact, and which requires the most careful study, the most skilled training to produce any marked relief. The careful attention the author has given to this most unfortunate and disagreeable condition has enabled him to suggest a systematic method along strictly scientific lines for permanent relief. We heartily commend the little volume to all suffering from *speech hesitancy*. 2. *The Art of Breathing as the Basis of tone Production, by* LEO KOFLER, is a book pre-eminently for singers and speakers. The author has studied all the methods of voice culture, has sifted the immense amount of material with scholarly effort and presents to his readers a practical vocal method which he has made his own with the clearness of the most accomplished teacher and artist.

SAUNDERS' POCKET MEDICAL FORMULARY, with an appendix containing posological table; formula and doses for hypodermic; poisons and their antidotes; diameters of the female pelvis and fœtal head; obstetrical table; diet list for various diseases; materials and drugs used in antiseptic surgery; treatment of asphyxia from drowning; surgical remembrances; tables of incompatibles; eruptive fevers; weights and measures. By William M. Powell, M.D. Sixth edition. Thoroughly revised. Price $2.00. W. B. Saunders Co., 1900.

A PRACTICAL TREATISE ON FRACTURES AND DISLOCATIONS. By Lewis A. Stimson, M.D., LL.D., Professor Surgery Cornell University Medical College. Third edition, revised and enlarged, with 336 illustrations and 32 plates in monotint. Lea Brothers & Co. $5.00. 1900.

The two volumes in which this work originally appeared have been united in one, the whole having been so extensively rewritten as to form practically a new book. The additions made in the present edition have been numerous and important. Prominent among them is that representing the advance in our knowledge of traumatic hematomyleis and the light it has thrown upon the prognosis and treatment of injuries of the spinal cord.

DISEASES OF THE EYE. By Kent O. Foltz, M.D., Professor of Ophthalmology in the Eclectic Medical Institute, Cincinnati, O. A manual for the use of students and practitioners, 12mo., 566 pp., 193 illustrations, 5 pp. in colors and chromo-lithographic frontispiece. Cloth, price $2.50 net. The Scudder Brothers Company, publishers, No. 1009 Plum street, Cincinnati, O.

The author has given as explicit directions for eclectic internal medication as possible, along the line of specific medication and specific diagnosis. To the general practitioner the work will prove of great value. The symptoms and pathological conditions are clearly given as well as the individual remedy.

LEA'S SERIES OF POCKET TEXT-BOOKS. Obstetrics by David James, M.D. Series edited by Bern B. Gallaudet, M.D. Illustrated with 149 engravings. Lea Brothers & Co.

The author has succeeded admirably in preparing a short, concentrated treatise on the science and art of obstetrics which the student and junior practitioner will find of great use in attendance on lectures or in general practice.

INTERNATIONAL CLINICS. Vol. III. of the Tenth Series of this publication is rich in timely and practical clinical articles. The symposium of genito-urinary diseases includes some of the ablest specialists in the profession, and those in the other departments of our profession bring the reader in rapport with some of the best practical thinkers and workers in the field of progressive medicines.

OBSTETRICAL CLINIC. By Denslow Lewis, Ph.D., M.D. Octavo, 640 pp. Price $3.00. E. H. Colegrove, Publisher, Chicago.

This volume contains a series of 39 clinical lectures on practical obstetrics delivered to students and practitioners in Cook County Hospital, Chicago, by one of the ablest gynecologists and obstetricians in this country. The abundant clinical material at the disposal of Dr. Lewis and the rare skill with which it have been utilized has enabled the author to give to the profession a work of great practical value whose instructions can be followed with almost implicit reliance. The remarks upon criminal abortion, infanticide, illegitimacy, the restriction of venereal disease, the regulation of prostitution and other medico-sociologic topics are what might be expected of one with so clear and logical mind as Dr. Lewis with such ample opportunity for information.

A TEXT-BOOK OF HISTOLOGY, INCLUDING MICROSCOPIC TECHNIC. By A. A. Böhm, M.D., and M. von Davidorf, M.D. Edited with extensive additions to both text and illustrations by G. Carl Huber, M.D. Authorized translation from the second revised German edition by Hubert H. Cushing, M.D., with 351 illustrations. Price $3.50. W. B. Saunders & Co., Publishers, 1900.

This work presents as fully as possible from both the theoretic and technical standpoints the subject matter of the lectures and courses in histology given to students in the University of Munich. The American editors, while retaining the matter and illustrations of the German edition, have made the work still more acceptable to the readers in this country by frequent valuable additions. The sections on the motor and sensory nerve-endings and on the spinal and sympathetic ganglia have been greatly expanded, and the innervation of glands and organs has been considered much more fully than in the original. More than one hundred illustrations, the majority of them from original drawings, have been added. The work has a scientific value which will be fully estimated by every thoughtful student of histology.

The third, or September volume of "Progressive Medicine," Lea Brothers & Co., is devoted to diseases of thethorax and its viscera, including the heart, lungs and blood-vessels, diseases of the skin, of the nervous system and obstetrics. The fourth or concluding volume of the year treats of diseases of the digestive tract and allied organs, kidneys, genito-urinary diseases, fractures, dislocations, amputations, surgery of the extremities and orthopedics, physiology, hygiene, and practical therapeutics.

We have only to repeat our unqualified commendation of this series of quarterly volumes, covering as they do the whole field of progressive medicine.

Lea Brothers & Co. issue the 16th edition of Atfield's Chemistry. A work so familiar to the profession certainly does not require either review or editorial notice. It is undoubtedly one of the most concise and practical works on chemistry ever issued, and all that is needed is the announcement of a new edition.

The comprehensive work of Dr. Crook on Mineral Waters recently issued by Lea Brothers & Co. gives the analysis of all the medicinal springs which have gained any special reputation in the world. So much attention is being paid to mineral waters, not only as a beverage but as a remedial agent, that this work will prove a timely aid in the proper selection of water.

The *Medical News* visiting list for 1901, 30 patients a week, Lea Brothers & Co., publishers, is out promptly for the new year and as usual is in perfect accord with the needs of the profession.

A TREATISE ON HUMAN PHYSIOLOGY FOR THE USE OF STUDENTS AND PRACTITIONERS OF MEDICINE. By Henry C. Chapman, M.D., Professor of Institutes of Medicine and Medical Jurisprudence in the Jefferson Medical College of Philadelphia. New (second) edition, thoroughly revised. In one handsome octavo volume of 921 pages, with 595 engravings. Cloth, $4.25 net; leather, $5.25 net. Lea Brothers & Co., Philadelphia and New York.

THE PRINCIPLES OF BACTERIOLOGY. A Practical Manual for Students and Physicians. By A. C. Abbott, M.D., Professor of Hygiene and Director of the Laboratory of Hygiene, University of Pennsylvania, Philadelphia. New (5th) edition, enlarged and thoroughly revised. Handsome 12mo., 585 pages, 109 illustrations, of which 26 are colored. Cloth, $2.75 net. Philadelphia and New York: Lea Brothers & Co.

LEA'S SERIES OF POCKET TEXT-BOOKS. HISTOLOGY AND PATHOLOGY. *By John B. Nichols, M.D.*, Demonstrator of Histology, Medical Department Columbia University, and F. P. Vale, M.D., Assistant in Pathology, Medical Department University of Georgetown, Washington, D. C. In one handsome 12mo. volume of 452 pages, with 213 illustrations. Cloth, $1.75 net. Flexible red leather, $2.25 net. Lea Brothers & Co., Philadelphia and New York.

Private Libraries.—The second part of the List of Private Libraries compiled by Mr. G. Hedeler of Leipzig will soon be ready. It will contain more than 600 important private collections of the United Kingdom, including supplement to Part I (U. S. A. and Canada).

CORRESPONDENCE.

FOOD, FLANNELS, AND PHYSIC: A POINTER ON HEALTH.

To the Editor of the MEDICAL TIMES:

What would you and your readers say of a man who should appear on the street dressed in a light-weight crash suit with no underwear nor overcoat when the mercury was at zero or below? I imagine that you would think him a fool or a lunatic. For myself, I would give him one other chance; that is, he might be out trying to freeze out the "grip germ," either to prevent or cure an attack! But, at any rate, he would be no more open to ridicule than all those men who sported *three suits of clothes* yesterday (Nov. 21) when the temperature was at 70° F. above—that is, a suit of winter flannels, the conventional suit of heavy-weight woolen stuff, and on top of all an overcoat. And, yet, I observed scores of men—lawyers, editors, business men, statesmen, and doctors, even—thus sweltered; and I heard these men damning the weather (!) for its humid and oppressive heat. One of these was a Senator-elect from a near-by district, and I heard him say, "We shall all be sick if this weather holds on long." This morning we have a happy change, and I had the pleasure of watching my five and nine-year-old boys naked (except for their boxing gloves) in their bedroom with wide-open windows, pummeling each other for a half hour, the temperature of the room being about 50. They enjoyed every minute of it and came to the breakfast table in condition to eat like a pair of army mules.

If the people would only learn that one of the chief points for health is to keep cool, rather than over-warm; if they would dress according to the weather and do a great deal more in the way of roughing it, it would send half of us medical men out of business and lower the death rate to 15 or under per thousand per year. It runs now about 20 in steady cold weather, but it runs up to 25 and over during an extended period of "unseasonably warm weather" in winter, simply because we do not exercise the same good sense in keeping cool that we do in keeping warm.

CHARLES E. PAGE, M.D.

Boston, Nov. 22, 1900.

THE INJECTION OF COCAINE INTO THE SPINAL CANAL.

A BOLD method of using cocaine has come across the ocean to delight the enterprising surgeon, and reports are beginning to gather to show the efficacy of the anesthesia produced by the injection of a solution of cocaine into the spinal canal. As is generally the case in medical experimentation, the first reports are flattering and hopeful. The originator of a scheme and his friends always seem to have happy results, no matter what may be the story told by later observers.

But this idea of injecting a local anesthetic into the spinal canal while in sympathy with the boldness of the period needs careful consideration and trial before its acceptance by the profession at large. This is especially true when such an active agent as cocaine is the injected fluid. For this reason it is well to study the action of cocaine locally. When it comes in contact with mucous membranes, cocaine passes through them quickly and at once the full effect of the drug is produced. The first thing seen on its application in this way is a palor of the part, owing to the construction of the small blood-vessels, but this is followed by dilatation of the vessels and a congestion. This latter may be so marked as to interfere with the surgeon's work. The effect of the cocaine is removed by its absorption into the general circulation. Hence here we have a powerful drug applied directly to tissues which a few years ago the surgeon touched with dread; this application is followed by profound symptoms and is terminated by the disappearance of the drug through the body.

The popular belief seems to be that this injection is made into the spinal cord, whereas it is to be injected into the spinal canal, so as to come in contact with the nerves of the cauda equina. This increases the difficulties of the operation and decreases the chances of success. So far, while there have been some successful cases reported, probably two-thirds have been failures. Either the surgeon failed to reach the spinal canal or got beyond it. The point of application of the syringe is between the third and fourth lumbar vertebræ, this place being determined by a line extended across the body of the patient, joining his iliac crests. A short platinum needle with a short sharp bevel is inserted into the spinal canal, but the syringe is not attached until spinal fluid flows from the needle. Then the syringe is screwed on and the solution is injected. The surgeons using this method have injected large doses, even as high as five or six grains, and have frequently produced the general symptoms of cocaine poisoning, such as intense headache, retching, prostration, etc.

The results obtained so far by the so-called successful operations cannot be determined for months, or even possibly for years, but the method is one of great risk. Absolute asepsis is, of course, indicated; in fact, it would be hard to state what might follow any absence of this precaution. The operation does not cut off any of the patient's dread of the operation; in fact, he can watch it if he so prefers. Again the anesthesia cannot, like etherization, be pushed or let up on from time to time. It is beyond the surgeon's control. So it would seem as if this daring operation would soon be sent to that lumber room where rest so many of the brilliant ideas and schemes of old time medical men.

J. H. A.

Improved Technique for Rubber Gloves.—If thin rubber gloves are sterilized by dry heat—which can be done several times without injury—and dusted inside with the talcum powder used in new kid gloves and shoes, they slip on with ease and keep their shape, says Wormser in the *Semaine Méd.* of June 30 (*J. A. M. A.*).

To Remove Sunburn.—Slice a green cucumber and put into sweet milk for some six hours. Then press and strain and apply to face or other parts, and in a short time dry the parts. *Sanative Medicine* says it will remove sunburn and leave the parts in good shape.

Recent soundings show that the temperature at the bottom of the ocean is uniform in all depths from 500 fathoms to 4,200 fathoms, being about three degrees above the freezing point.

—Dr. Horace Tracy Hanks died in this city November 18 of Brights disease, at the age of 64. Dr. Hanks was a most genial man of sterling character, an able gynecologist, and occupied a high position in the profession.

RETROSPECTIVE THERAPEUTICS.

The Use of Thermol in Typhoid Fever.*

Thermol, $C_{14}H_{15}NO_3$, a definite chemical compound, is of all the coal-tar produtcs the most valuable and reliable. Its action on any increase of bodily heat is twofold. It lowers temperature by dissipating heat and inhibits heat-production by directly controlling the heat-producing center.

Many of us have been taught and have been in the habit of giving turpentine in typhoid fever, when we have the dry, chapped tongue, combined with a tympanitic abdomen and diarrhea, but in this series of cases, thermol quickly relieved this condition. The epidemic of typhoid fever which prevailed in Philadelphia the past winter and spring is admitted by the most conservative to have been of a severe type and attended by a heavy mortality. The fact is appreciated that it may be claimed my cases were abortive ones, but in defense of the position I have assumed, will advance the statement that it is very unlikely that I would have eight abortive cases in succession in private practice during the past winter in this city. That they were abortive under the antagonism of thermol is beyond question.

Thermol is non-toxic in its action. After the daily prescribing of this alkaloid for the past seven months it can be positively asserted that it is devoid of irritating properties, in contradistinction to the action of some of he coal-tar products. I have not met an instance in which there was the slightest unfavorable impression upon the circulatory system, such as blueness of the face and extremities, cardiac distress, dizziness, etc. The method of administration is important. The patients were given 2½ grains every three hours, even when the temperature took a subnormal dip, and continued through the whole course of the disease until it remained at the normal line a week. It is a mistake to give it *only* when there is a high temperature or hyperpyrexia and then discontinue the drug when there is a fall of several degrees. Its control thereby over the heat centers is lost and its action on the intestinal microbes is not constant.

(Full details and charts of the cases are given.)

Under the use of thermol, the cases on the decline of the fever presented very little exhaustion and an early hunger developed. There were no complications and no sequels. The diarrhea was effectually controlled, as was also the abdominal distention. In no case was there a necessity for stimulants; only one patient was allowed a mild sherry and that at his request.

The cases were marked by a rapid convalescence, an absence of relapses and an early recovery of normal strength.

There is no doubt that every member of the medical profession will gladly accept any plan of treatment which will shorten the tedious course of typhoid fever, prevent its consequent exhaustion and lessen the prolonged convalescence, to say nothing of reducing its mortality.

To draw a comparison between the cold bath and the thermol treatment it is only necessary to compare the charts of cases treated by the respective methods. Under hydrotherapy the baths must be repeated every few hours and the patient disturbed and distressed. The temperature is not kept down permanently, but it almost immediately asserts itself. The specific cause at work in the system is not eradicated. There is increased heat-production continually going on from the presence of poisonous products. It seems more rational to employ a drug which will effectually control temperature and thereby lessen the great exhaustion and high nervous phenomena invariably associated with excessive heat. A certain percentage of cases have been saved since the innovation of the bath treatment, but in thermol we have a far superior remedial agent which is more convenient of administration and one which will not only safely reduce a high temperature, but also control it thoroughly and act antagonistically to the leukomaines in the blood.

*Geoge B. Miller, M. D., *Philadelphia Medical Journal.*

Chloralbacid.—Prof. W. Fleiner of Heidelberg says that according to his experience chloralbacid-sodium acts not only merely upon the stomach but also on the intestines, and I would therefore recommend it chiefly in those cases of atonic digestive disturbances, which are accompanied by loss of appetite, deficiency of hydrochloric acid, abnormal formation of organic acids, deficient resorptive power of the intestines and constipation. In a great many other diseases, not only in diseases of the stomach, do the above-mentioned disturbances occur, for instance, chlorosis and anemia, enteroptosis, a great many forms of neurasthenia, catarrh of the stomach, cancer of the stomach, nervous anorexia, in many cases of malnutrition, and in some forms of cachexia. For all these conditions and these various forms of disease there exists, even when curable, no distinct *remedies,* but only *remedial methods.* Thus it lies far from my intention to recommend chloralbacid as a remedy for anemia, deficiency of blood, gastric catarrh or cancer of the stomach, but I do not hesitate, judging from my experience, to emphasize the fact that chloralbacid influences some of the disturbances occurring in the above-mentioned diseases so favorably that it can be termed a new therapeutic remedy deserving of general use.

Walking During Pregnancy.—Tucker (*Med. News*) recommends that obstetric patients should be encouraged to walk a good deal during the last months of pregnancy. He thinks this an excellent form of exercise and believes that it favors engagement of the fetal head. The walking should be increased more and more toward the end of the pregnancy. If at the end of eight and a half months the head is not engaged the daily walk should be increased one-half mile each day, until the patient is walking at least six miles. Another exercise that is of great service is for the woman to lie in bed and lift herself up to a sitting position without support. This brings into play her abdominal muscles. It increases their functional capacity, makes them of more service during the actual labor itself and presses the head well down into the pelvis before labor begins.

Photographing the Interior of the Stomach.—Drs. Lange and Melzing have succeeded, *Med. Zeit* says, in taking photographs of the mucous membrane of the stomach in the living subject. A stomach tube, 66 centimeters long, with a diameter of 11 millimeters, is introduced, having at the lower end an electric lamp and at the upper end a camera. The stomach is first emptied and washed and then distended with air. Then fifty pictures can be taken in rapid succession in from ten to fifteen minutes. By turning the apparatus on its own axis all parts of the mucous membrane can be pictured. The photographs are about the size of a cherry-stone, but of course they can be enlarged to any extent.

—For facial neuralgia Belt (*Med. Standard*) recommends the placing of the hand on the opposite side to that on which the neuralgia occurs in a basin of water as hot as can be borne, and reports several cases of relief with this method.

RETROSPECTIVE DIETETICS.

Alcohol a Poison, Not a Food.—"I hold," says Dr. Howard S. Anders, in the *Philadelphia Medical Journal*, "that our modern knowledge of alcohol in the human body justifies the belief that in health it is never a food in any sense, be the quantity large or small, but always a poison, biologically or physiologically speaking; that in disease it is neither a food nor a poison, but may be a suitable and helpful drug, and that neither in the last analysis nor fullest synthesis, in health or disease is it a 'partial food,' in small, so-called moderate, or excessive quantities. Let us call it what it rightfully is, *a drug, and not a drink, a narcotic, and not a tonic.* It may take a generation or two before this view becomes as universal as one might wish, but I hope and believe that then it will so become."

More radical still is the position taken by Kassowitz (*Deutsche Med. Woch.*, Aug. 9-16-23, 1900), who sweepingly denounces the employment of alcohol and affirms that for a period of ten years he has administered none of it in his practice. Having formerly been in the habit of giving it freely, he considers himself qualified to draw conclusions, and is of the opinion that it deserves no place in the therapeutic list. It is useless as a food, for it is essentially a protoplasmic poison and therefore incapable of entering into combination in the body, while the belief that through its oxidation it is capable of effecting economy of the body's fat or albumin stores rests on an error of observation. It is true that on an alcohol diet less nitrogen is excreted, but this does not mean that a saving of the body tissues is going on; the fact is simply that owing to its destructive action the alcohol inhibits metabolism, the damaged protoplasm being less able to take part in the vital processes, while at the same time through its benumbing the higher centers the organs innervated by them are less able to functionate normally and oxidation is less active. In view of the numerous other antipyretics and stimulants at command, there seems no valid reason for employing an agent like this, the deleterious action of which on the heart muscle, kidneys, liver, arteries and nervous system is so universally admitted. As a true fuel saver in febrile and asthenic states, sugar, which may be readily administered in the form of fruit juices, ices, sweetened lemonades, etc., answers every requirement and experiments with the ergograph have shown that after its absorption a rapid and very noteworthy improvement in muscular vigor and tone takes place which, of course, includes the heart action. As a stimulant camphor surpasses alcohol in its promptness of action and the complete absence of all disagreeable by-effects. It will be a real advance when it is universally recognized that no substance can play the double rôle of foodstuff and poison, and that only toxic and never nutritive properties are to be ascribed to alcohol.

A Useful Nutrient.—A most excellent nutrient in various diseases is now prepared from milk-casein, known as *eucasin*, and can be conveniently found at drug-stores. It is practically tasteless and odorless, and freely soluble in any vehicle. It is so condensed that 95 per cent. of the powder consists of albumen, while only 5 per cent. is water. Two pounds of eucasin are equal to the casein of ten gallons of milk.

Eucasin representing as it does albumen free from nuclein, diminishes the accumulation and secretion of uric acid. Its excellent effects on the bowels and on the assimilation of the accompanying diet, its lack of irritating effects on the mucous membranes of the absorbing organs, its absolute freedom from any unpleasant taste, and lastly its inexpensiveness, place it in an unrivaled position as a strengthening food generally. In wasting diseases eucasin is able wholly to supply the necessary meat albumen; it should therefore be prescribed especially as a substitute for milk (when the latter cannot be digested) in various affections as typhoid, for instance. It is also invaluable in convalescence after all infectious diseases and in diabetes, preventing loss of flesh when taken in conjunction with other substances such as butter, rice, cocoa, eggs, bread, etc., as indicated.

Dr. Weiss (*Vienna Clinical Review*) has observed the effect of eucasin in a great number of cases both on healthy subjects and in the treatment of various diseases. Its use was in each instance attended by an increase in weight, even in cases of advanced consumption. He also recommends it in the treatment of nephritis, diabetes, chlorosis and all diseases where great quantities of nourishment are essential in diet. Eucasin was very successful in three cases of ulcus ventriculi, and in one case of hyperemesis gravidarum.

In the form of eucasin, albuminous masses can be brought into the system which cannot be taken in the form of any other known derivative of albumen; or which having been taken, cause irritation, such as diarrhea, and are immediately before being assimilated, expelled from the system. Eucasin is pre-eminently a nutritious and invigorating remedy for sufferers from anemia, dyspepsia, kidney and lung diseases, for convalescents, delicate children, and persons weakened through lack of nourishing food.

Tobacco.—Though not strictly an article of diet, tobacco for practical purposes may be discussed in this category. Thoms, *Apotheker Zeitung* (*Amer. Therapist*) finds as follows: Twenty per cent. of the total weight of cigars remains in the ash. There are two alkaloids present, nicotine and pyridine, the latter being derived from the former. The stump contains four times as much nicotine as the smoke, and as the average cigar contains only 1.12 per cent. of nicotine, comparatively little of either alkaloid even reaches the mouth. In the ordinary method of smoking, it is obvious that a large part of the smoke is lost and that most of that taken into the mouth is blown out with its alkaloids unabsorbed. Hydrocyanic acid, reported by other analysts, was not found by Thoms, though he does not positively deny the possibility of its presence. Butyric acid was found only in traces. In short, the only constituents that could be harmful were carbon monoxide, produced to the extent of 20 c.c. for each kilogram of tobacco, and an ethereal oil. The former can probably be ruled out. The latter, consisting of pyridine, a phenol, and probably furfurol, but very difficult of analysis, is highly poisonous, causing the symptoms commonly associated with tobacco.

Value of Meat in the Prevention and Treatment of Pulmonary Tuberculosis.—F. Parkes Weber directs attention to the infrequency with which tuberculosis and gouty diseases are found in the same individual, and suggests that there may be some substance circulating in the blood of gouty subjects, in minute quantities, yet sufficient to have an antagonistic action toward the growth of tubercle, and that this is likewise the case in persons taking an unusual amount of food. In accordance with this view he advocates the use of a preponderatingly proteid rather than carbohydrate diet in tuberculous individuals, laying stress on the necessity for seconding the treatment by abundant out-door exercise.

IODIDES IN THE TREATMENT OF GOITRE AND SCROFULOSIS.

Dr. R. Lefort, writing in *L'Independance Medicale*, says: The reader remembers the important part played by the iodides in the treatment of some varieties of goitre, before thyroid medication began. Dr. Duguet, a physician to the hospitals of Paris, gave them not alone internally, but also in local injections, and we must admit that he obtained some most encouraging results in this manner. We still meet with some cases that seem to rebel against thyroid medication, which at times causes serious disturbances. Dr. Bernheim observed two such cases, in which the use of thyroid extract could not be tolerated, and in which iodide of potassium, even in very small doses, caused immediate disturbances. This was in two women, aged 48 and 53 years, who appeared to be excessively impressionable, and in whom the goitres, though not very large, had brought about very marked circulatory disturbances. He prescribed at first one gramme of the pure iodalbacid daily, and soon increased the amount to four grammes daily. This treatment was continued during four months in one patient, and three months and a half in the other, and proved eminently successful. In both the thyroid body was restored to its normal size, and all the nervous and cardiac symptoms disappeared.

Iodalbacid administered for a long time exerts a strong influence upon old inflammatory or serous exudates; it causes absorption of the fluid and the disappearance of friction sounds due to deposits remaining after pericarditis or pleurisy.

Dr. Bernheim also relates the case of a young girl, aged 17, who suffered from the ill-defined condition known as scrofulosis, characterized by the enlargement of the cervical glands, bloating of the lips, a cachectic complexion, acne of the face and irregular menstruation. This girl, who was ill-shaped and developed, took a gramme and a half of iodalbacid daily during several weeks, with the result that all the functions of nutrition became regular, and the glandular hypertrophy disappeared. The young girl may now be considered as entirely cured.

THE PRACTICAL COLLEGE COURSE.

Dr. Russell H. Chittenden, the director of the Sheffield Scientific School of Yale University, one of the greatest practical institutions in the world, believes in the broadest possible education. In an article in *The Saturday Evening Post* he writes:

"There can be no question that in any suitable college course in mechanical engineering, for example, there should be a judicious commingling of theoretical and practical, but the shop, laboratory and drawing-room work should be mainly for the elucidation of the theoretical, and not as an end in itself. Given a young man of broad knowledge, with a mind cultivated by the higher mathematics, and with a thorough conception of the principles and laws of physics, mechanics, hydraulics, etc., and he will soon adjust himself to the environment of his professional work, and eventually rise to a plane far beyond that of the man whose training has been purely technical. If this is so, then such a method of education is to be recommended as more truly practical. I am told by competent engineers, and the statement coincides with my own views, that it is very questionable if the student of engineering derives as much real advantage from the workshop method of instruction as he would gain by expending the time in the study of scientific principles; that the detailed knowledge of the practical application of principles is best obtained by the young man in the shops themselves after his college course, and although he may at first be handicapped, he will quickly adjust himself to the environment and eventually make a far more competent engineer from his broader knowledge of scientific facts and principles. The main object of the practical college course should be to provide a liberal education along various scientific lines, and yet to afford such facilities in certain directions that the student may acquire a proficiency sufficient to fit him for some professional work, or at least to pave the way for further development along some special line."

THE NITRIC ACID TEST FOR ALBUMIN PERFECTED.

The nitric acid method of detecting albumin in urine is one of the two most reliable and widely employed tests. Being very convenient it is probably more often used than the heat test, although as ordinarily done, it is not as delicate.

The best method of performing this test hitherto has been to deposit the nitric acid under the urine by means of a pipette. The withdrawal of the pipette necessarily causes some commotion of the two fluids and a slight admixture of acid with the urine. The result is that when the amount of albumin is very slight, the zone of coagulation is somewhat diffused and indistinct, and minute amounts are not clearly shown.

It occurred to me that both of these defects could be remedied by substituting for the pipette a capillary tube, the upper end of which is expanded into a small funnel and the lower end curved and made to enter the bottom of a small test-tube. The two tubes forming a letter U are then mounted on a short and strong pedestal. On one side of the test tube, near the bottom, a coat of black enamel is applied in order to show the white albumin zone more distinctly. By the side of the black background is a narrow strip of white enamel to show the color reactions due to biliary and urinary pigments.

An instrument as described above, and known as "the albumoscope," can now be obtained from dealers, and has met with much favor among medical men who have used it. By its use one-sixtieth of one per cent. of albumin can be clearly detected, thus making this test equal in delicacy or even superior to the heat test. This simple instrument also makes it possible to do the test more rapidly and easily than it can be done by any other method.

Treatment of Simple Goitre in Young Adults.—Murray (*Edin. Med. Jour.*, abstract in *Jour. L. R. and O.*) advises the thyroid extract in treating simple parenchymatous goitres, on the theory that in these cases the enlargements take place in response to a demand made by the system for increased thyroid secretion. The enlargement, therefore, is at first physiological, but in some cases having once started it goes on beyond physiological limits. If now the demand for increased thyroid secretion is supplied from outside, the hypertrophied gland is able to pass into a resting condition and undergoes a partial atrophy. Thyroid extract should never be given if any symptoms of Graves' disease are present. By this treatment simple parenchymatous goitres may be reduced to two-thirds, one-half, or even one-third of their former size, but rarely disap-

pear altogether. The dyspnoea is relieved and enlarged superficial veins are reduced in size. On this account it is wise before operating on any goitre to treat the patient for two or three weeks with thyroid extract. The diminution in size of the goitre and of the veins render the operation much simpler, whether the goitre is simple or contains cysts or adenomata. (T. M. S.)

Usefulness of the X-Ray.—J. Jicinsky, in the *American X-Ray Journal* for February, 1900, says that the value of the X-ray in general surgery in locating foreign bodies is settled. Its use as a therapeutic agent and in medicine is still a matter for study and experimentation. He emphasizes the necessity for the more general use of the X-ray. During the last three years he has made 3,800 exposures and has not had a single burn. For such work it is necessary to have an apparatus capable of giving a 12 or 14-inch spark, and an interrupter giving about 30 or 34 breaks per second. In diagnosis the X-ray is useful; it will distinguish rheumatism from gout, and will show malposition of the vertebræ or distortions of the hip joint. He refers to the fact that one case of extra-uterine pregnancy has been recognized by the X-ray. Arterial sclerosis is detected, as are aneurysm of the aorta, dilatation of the heart, central pneumonia, emphysema, and pulmonary tuberculosis. The size of the stomach can be made out and its peristaltic action felt.

Albuminuria.—Charles Alling Tuttle, in the *Jour. A. M. A. (Med. Record)*, considers albuminuria from the point of view of its prognostic value in chronic nephritis. He says that the mass of evidence which has come to us of late from the autopsy table shows conclusively that chronic nephritis exists and is an unrecognized cause of death in a proportion of cases far beyond ordinary belief; and the comparison of carefully kept records of cases before death, with autopsy findings, shows that little reliance can be placed on mere urinary examination, either positive or negative, as a means of absolute diagnosis or prognosis of Bright's disease. The writer's own experience leads him to believe that (1) Bright's disease may exist without the ordinary urinary manifestations, viz.: albumin or casts; (2) albumin and casts may be found in the normal urine and do not necessarily mean Bright's disease; (3) given a case of chronic Bright's disease with albuminuria, the fact of its presence, its constancy, or its amount has absolutely no prognostic significance.

No More Danger in Trephining.—With the improved instrument he describes, S. V. Stein (*Ctrlbl. f. Chirurgie*, May 12, *J. A. M. A.*) is able to operate so rapidly that he has made five openings in the skull of the cadaver in twenty minutes, without the slightest injury to the dura, and his experience on man is very nearly as conclusive. A basket protector, as he calls it, fits over the cutter, a thumb-screw fastening it tight near the upper end. The lower end flares out into a ring which fits against the skull, when the hole has been drilled deep enough. The protector turns with the drill until the desired depth is reached, when the ring pressing against the skull prevents it from entering farther. This drill is then changed for another with a more abruptly sloping cutting point, but with a round button at the extreme tip. The protector is then adjusted to allow the cutter to enter a little deeper, and as the cutter turns the button at the tip pushes the dura down out of the way of the cutting edge. All possibility of injury is thus obviated and the operator can proceed rapidly and with complete confidence.

Carbolic Acid Gangrene.—Cases have been recorded in which the use of as low as a one per cent. solution has been followed by gangrene. The use of carbolic acid as a dressing should be condemned. Experiments on kittens, wherein one-half of their bodies have been immersed in a 2½ per cent. solution for from five to fifteen minutes, have been followed by fatal results in almost all cases.

Growing Pains as a Symptom of Rheumatism.—Dr. E. M. Brockbank, in the *British Medical Journal*, calls attention to the fact that "growing pains" are often, if not always, of rheumatic origin, and any inquiry into the cause of a diseased heart (especially of mitral stenosis) should include investigation as to the previous occurrence of such pains. He reports five cases of mitral stenosis in which no history of rheumatism could be elicited except of "growing pains," which are the most common symptom of rheumatism in children.

—Surgeon W. C. Gorzas, chief sanitary officer in Havana, reports that the general death rate for October makes a very favorable showing as compared with the preceding four months, being less by eleven deaths than the smallest figure shown in these months. The report shows that we had 507 deaths which, gives gives a death rate of 25.08. This rate compares very favorably with the rate for October for the ten preceding years, being smaller than the lowest, that of 1899. We had 74 deaths from yellow fever this October. While this is large for October, it is not, as has been reported in many of the papers of the United States, as large as that for October in many of the preceding years. It will be noted in the body of the report, that '95 and '96 showed considerably larger numbers.

Of the cases of yellow fever occurring during this month, 62 were Americans and 225 were Spaniards; 8 Americans died and 51 Spaniards, giving a rate respectively of 12.90 for the Americans and 22.66 for the Spaniards.

The immigration continues to increase and is the great cause of our comparatively large number of yellow fever cases. As will be seen from the body of the report, we have had so far the largest number of immigrants that has come into Havana in any one year up to November the first, and, for October, very much the largest immigration that has occurred in any October within 10 years. We hope a great deal from the recently established Immigration Bureau, but so far it has not had time to have any perceptible effect. Of 308 cases this month, 167 have been on the Island less than a year and 215 less than two years, which goes to prove that our yellow fever is made up almost entirely from the recently arrived Spanish immigrants.

During the past month many exaggerated reports of the yellow fever situation, have been published in the United States. Out of a population of 242,000 there have been since the first of January 968 cases. Mr. Dobson, the correspondent of the Associated Press, published very widely the statement that every block in Havana had from one to seventeen cases. It will be seen from the report, that we have 857 occupied blocks. Out of these 397 have had cases of yellow fever. Of the blocks which have had cases, 224 had only one case, and only one or two blocks in the city approximated the numbers given by Mr. Dobson. In Havana there are 16,480 houses, of which 709 have had cases of yellow fever.

MISCELLANY.

—There were 847,627 children born in France in 1899, ten thousand below the low average the last decade.

—The French Minister of War, De Gallifet, has summarily and absolutely prohibited the sale of alcoholic liquors of any kind in all the military canteens.

—There is a marked decrease in the birth rate in Berlin, which is now only 49 in 1,000, which is less by more than one-third than in the whole of Prussia.

—An electrician in Mount Vernon recently received a discharge of 1,040 volts, and though badly burned and made insensible, was not otherwise seriously injured.

—The *Medical News* learns from Santiago de Cuba that leading members of the medical profession report radical cures of diphthertic cases by the initial application of paraffin.

—Dr. Alvah H. Doty, officer of the port of New York, announces that the Widal test for typhoid fever will be made free of charge to any physician of this State. Full directions will be sent on application.

—Dr. Frederick Peterson, President of the Board of Managers of the Craig Colony for Epileptics, Sonzea, New York, offers a prize of $200 for the best essay on Pathology and treatment of epilepsy. Award made March 8, 1901.

—A convalescent hospital is about to be established in the Philippines. It is to be located at Beago de la Trinidad, near Manila, about 4,700 feet above sea level, the thermometer never rising above 75° in the daytime, the nights being cool and exhilarating.

—The little city of Orea, in Sweden, owns and operates a nursery that brings it an annual income of $150,000, a sum that pays all the expenses of the municipality, including free schools for the children and a free telephone system for the people.

—It is reported that the Honorable Ella Scarlett, M.D., daughter of Lady Abinger (formerly Miss Helen Magruder, daughter of the late Commodore George Allan Magruder, of the United States navy), is going to Korea as medical officer of the imperial household.

—Bellevue Hospital has recently installed an apparatus for the hot-air treatment of rheumatism, gout, and kindred disorders. It can be applied to the whole body or to the limb alone, and is capable of giving a temperature of 400° F.

—According to the *Journal de Médecine de Paris*, the following solution of cocaine is stable:

℞—Cocain Hydrochlorate.....	4 grains
Distilled Water.....	2 ½ drams
Salicylic Acid.....	⅙ grain

—Prof. Wilhelm Conrad Roentgen received the Barnard medal, in commemoration of his discovery of the X rays, at the commencement of Columbia University on June 13. The award was made on the recommendation of the National Academy of Sciences.

—For intestinal colic, *Therap. Monatsheft.* recommends as "often of great and immediate value," two to five ounces of butter stirred into one or two cups of black coffee, and taken at a draught. Follow with carbonated waters freely. Do not use opium or its preparations at the same time.

—The editor of the *Christian Advocate*, Dr. Buckley, recently said that "Christian Science," as a system of therapeutics, would have died ere this if it had not been put forward as a religion, and it would have died as a religion if it had not been put forward as a system of therapeutics.

—London University, the university which provides the best medical degree in the kingdom for its alumni, has at last a home worthy of its claims and its past performances. It has taken formal possession of a wing of the enormous palace in Kensington known as the Imperial Institute, and the Prince of Wales has just attended the first prize-giving day.

—Dr. Pfaff of Harvard (*Med. News*) has investigated the poison of rhus radicans and finds it to be a non-volatile oil, present in every part of the plant (poison ivy), which cannot be washed off the skin with water alone. It is said that a remedy has been discovered in the form of a saturated solution of alcohol, of 50 to 75 per cent. strength, and sugar of lead, and that its efficacy has been tested by the Department of Agriculture.

—The *Medical Press and Circular* learns, "on the authority of a well-known agriculturist, that music exerts a physiological action on cows in respect of the secretion of milk. At a recent meeting of dairy farmers it was solemnly stated that music, suitable in quality and 'administered' at the right moment, was a never-failing means of increasing the proportion of cream in cows' milk. Now, galactagogues are notoriously uncertain in their action, and if there be any truth in this startling statement, nursing mothers whose lacteal secretion is lacking either in quality or quantity ought to take subscription tickets to all the fashionable concerts, failing which, a box at the opera occasionally might possibly answer the purpose."

—The American Association for the Advancement of Science says the following lines are all that is necessary for the physician to learn in order to prescribe in the metric system:

1,000 milligrams make one gram.

1,000 grams or cubic centimeters make one kilo or liter.

65 milligrams make one grain.

15½ grains make one gram.

31 grams make one ounce.

—Dr. Frank Sampson, of Penn Yan, N. Y., who is attending Lieutenant Mary Gregory, of the Salvation Army, reports continued high temperature in her case. She is twenty-four years of age, and has been suffering from appendicitis. On March 24 the temperature rose from 103° to 108° F. The next morning 112° F. was reached, the highest the doctor's instrument could record. A colleague was called in whose thermometer recorded the same degree. Four physicians and seven different thermometers were used and all recorded practically the same result. The degree of 112° F. was reached every day up to May 20, fifty-five days in all, and a severe chill usually preceded the fever. The pulse was generally not over 120, and the tongue has been clean and the mind clear except when opiates were used. Once a thermometer registering 120° F. was employed, and with this Miss Gregory exhibited a temperature of 119° F.

ORIGINAL ARTICLES.

HYGIENE IN THERAPEUTICS.

BY DR. EDWIN W. PYLE, JERSEY CITY.

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THE subject of medicine requires historic perspective.

When seen close at hand, the mind is confused with vagueness and vastness; but from a distance the relative proportions are clearly discerned.

A perspective reveals the mistaken observations and false deductions of every period; it enables us to profit by the experience of our predecessors, and to acquire freedom from the warp of sympathy and antipathy.

Medicine has been characterized by many curious changes.

In its earlier history theories were made, and if facts did not agree with them, so much the worse for the facts.

Galen taught that the cause of disease was in the putricity of four fluids, and yet he constructed a system of medicine so artfully, as to make himself a recognized authority for more than thirteen centuries.

In our period, a devotion to technical rather than to speculative investigation, warrants the belief that we are erecting upon the basis of chemical and physiological laws, and upon pathology and bacteriology, a scientific medicine.

Ether and chloroform, therapeutic measures, revolutionized surgery fifty years ago; cocaine and antiseptics have changed its entire aspect since.

Perhaps no other branch of medical science can point to discoveries so beneficent.

The proper use of drugs for the relief and for the cure of disease is the keystone of the arch upon which all therapeutical progress rests.

While we gladly pay this tribute, clinical experience teaches that with the exception of "Isopathy," or serumtherapy, medical administrations, in the main, have not kept pace with the noticeable advancement of hygienic knowledge.

To look over the formulæ of dispensaries, the prescriptions as they appear in medical journals, and as presented to pharmacies for compounding, is to wonder at the desecration that introduces so much saccharine material into the stomachs of the sick, in direct violation of dietetic principles.

Sugar is a fermentable product which under improper uses, irritates mucous membranes, like all diffusible substances.

Magendie ascertained that dogs fed exclusively on sugar and water died within thirty-three days of muscular atrophy and intestinal inanition.

At first they were active, later began to loose flesh, then became freeble with loss of appetites and symptoms of indigestion, just as children do when their food is too much sweetened.

Under conditions of health and exercise, sugar taken proportionally with other food adds vigor, limits tissue waste and satisfies an indefinite craving.

When made into good confectionery it may be given to children occasionally, after meals, without harm, and governments wisely add it to the soldier's rations.

When poor in quality and taken into empty stomachs, however, it is productive of great mischief. We veritably believe that cheap candy stores near public schools give rise to more evil consequences, in the aggregate, than neighboring saloons.

The former supply that which poisons the system against wholesome food, and thus devitalizes the strength-giving power of childhood, while the latter deal mostly with a few adult "soakes" that can't be injured.

Even under usual health conditions there are many who cannot use sugar in any form, without distress.

This is general knowledge. While in sickness, when functions are prostrated and no longer receive the stimuli of exercise and fresh air, it is the first article rejected by the digestive process, and consequently by a universality of experience, is excluded from diet-lists and prohibited in most well regulated sanitariums.

To avoid starches and sugars is the general rule in prescribing for all forms of indigestion. It is particularly contra-indicated in gastralgia, in hyper-chlorhydria, auto-infection, and in continued fevers, where motor functions of the stomach are slowly and imperfectly performed.

If sugar has no place in the dietary of the sick, and in this respect the profession is unanimous in practice, should it even be administered as a vehicle?

It may disguise taste and preserve a few medicines, but this advantage is outweighed by greater considerations, and by other methods which serve an equal purpose, without injury.

Therapeutics were made for the sick, and not for the monetary interests of manufacturers.

There is a gruesomeness in the suggestion to boil down sugar to prevent oxidation of medicines on the shelves of the pharmacist, to leave nature to wrestle with the problem the best she can under prescription.

There is no hygiene in therapeutics that stops short of a consideration of what takes place in the stomach.

Syrups are made by boiling down twelve pounds of sugar in eight pounds of water to the quantity of 10 pints. A teaspoonful of which represents more than a teaspoonful of sugar.

Although syrup administrations are no longer in accord with advance therapeutics, the average drug store deals out yearly, many barrels of this commodity, and a larger quantity on proprietary recommendations. Multiplying these amounts by the number of pharmacies in any given locality, gives an idea of the enormous quantity used in medicine, more or less sanctioned by a profession that knows the evil thereof.

The consequence of misinterpretation of natural laws is like a dark cloud through the entire history of therapeutics.

Dr. Crothers charges specifically that nervous dyspepsia, which begins soon after puberty and becomes a distressing disease in middle life, is often traceable to the free use of opiate syrups in infancy.

Few realize the injury that has been engendered by the reckless association of coughs and syrups.

In no other subject of human ailment has pathology received so little attention. Gun-shot prescriptions have been the rule, without apparent consideration of normal functions producing anorexia, constipation and malaise, worse for the system than the cough itself, and in the greater number of instances with the cause located in the upper air-passages, totally uninfluenced by any saccharine product. Fortunately, the introduction of the tablet triturate and a simplified therapeutics have modified this mode of prescribing, and reduced the flagrancy of hygienic violations. Still, there are syrupy compounds in endless variety, authorized by the pharmacopœia, taught in the colleges and produced under alluring recommendations, sufficient to cast a responsibility on the profession.

Careful study in prescribing would eliminate the unnecessary sugar element and might wisely substitute, in many instances, fresh water which is supported by every hygienic principle.

It would develop a more wholesome administration of the hypophosphites. It would obliterate the conglomerate diagnosis, as typified in cough syrups, by establishing a differentiation in causes that would lead to specific medication.

Druggists have suggested a relief in the popular elixirs, which contain only 10 per cent. sugar, and in this respect have preference; but the presence of 20 per cent. alcohol needed to preserve them is a quantity much too large for general administration, and out of it has grown an evil.

Thousands are daily calling for "Elixir of Calasaya" at soda fountains without knowing what they are taking or why they are impelled to repeat the dose, all in violation of statute laws and physiology. There is scarcely a community that does not have its "Elixir devotees."

Elixirs are administered mostly to children, and how many need alcohol? When nature alone repairs the damages of injury and disease, and when hygiene furnishes the greater part of a physician's healing outfit, it becomes unpardonable in his art to interpose a single obstacle to recovery, or one that any thoughtful parent might wisely reject.

In administering to the sick it is better to do nothing than to give the wrong thing.

When the system is burdened by disease it becomes the physician's duty to assist by an interpretation of the natural means which operate to maintain health, and never to burden a function by an unnecessary ingredient.

Sugar is not the only element that might advantageously be eliminated.

When Dr. Holmes said "throw physic into the sea" there was a rude awakening to truth, greater than the profession was willing to admit, or the laity to believe.

Since then practical medicine has been revolutionized.

In diphtheria, iron, potash and the long list has been discarded for alcohol and antitoxine; in the exanthemata to water and stimulants; in pneumonia from everybody's suggestion to a few simple remedies, while in diarrheas and many other affections earlier teachings are mostly set at naught, yet the pharmacopœia increases in volume, and retains the obsoletes of past periods, that serve better to introduce confusion than to advance knowledge.

Many of the same recommendations of dose and methods exist, notwithstanding the changes that practical therapeutics has wrought.

It has been well demonstrated that a grain of calomel, thoroughly triturated for at least *one hour,* will produce alvine discharges greater than 10 grains of the crude drug, without their dangers and discomforts; but no mention is made of this fact in the book, which should be a work of recommendation for the best interests of human kind.

The perfection of harnessed electricity is the result of elimination.

Our present motors would be inglorious hodgepodges were their wheels clogged by the accumulations of all electrical investigations.

Inherited notions have no place in practical mechanics, but they do override in medicine.

There are many subjects that illustrate this thought, none better perhaps than iron and anemia. This has been a pet theme with the profession, and many a prescriber, after sounding the medical edict "give iron," has felt himself conscience-clear and could have accepted a pass straight through to "glory."

But let us analyze from a clinical basis.

Years ago anemia was treated by massive doses of iron. Later with the same degree of success by diminished doses.

Recently these have been reduced by rival introductions of the proteid compounds, and anemia responds to treatment with the same measure of success.

It has also been relieved by doses approaching the infinitesimal standard, most apparent in taking ferruginous waters.

The hygienist removes the cause and the dyscrasia without iron. The hydropathist cleanses the body, washes away the intestinal ptomaines and with proper food and rest, restores color without the chemist's art. If the premise be correct that anemia is relieved all along the line from massive doses to simple hygiene, and this is clinical experience, we fail to appreciate the wisdom, *when iron is an irritant to every tissue, of passing through the intestinal tract of a chlorotic girl, in one day, more by 30 times, than her system can possibly take up, or more iron than the healthy digestion of a laborer can abstract from his food in a period of six weeks.*

And yet this is just what takes place when inorganic iron is prescribed in minimum doses, all of which is in bold opposition to hygienic therapy.

Were simple addition all that is needed in anemia, the practice of medicine could be reduced to a calculating amusement.

We may deluge the languishing plant, but the vital principle therein may not respond to drowning impulses.

Iron has no characteristics of food. It does not assimilate, and the doctor has misinterpreted the complex mechanism of digestion in jugulating with anemia more readily than he has commanded the function.

Iron has no medical properties, except that of astringency. It injures teeth, stomach, intestines and nervous system. Physiological experiments, clinical experience and the unanimous prescribing of proprietary products all over the country indicate, that our long current method of inorganic dosing has been somewhat of a farce, to which the profession is not likely to return.

With the exception of a few preparations that are valuable for astringent properties, all others, numbering some forty to fifty, might well be eliminated from the list of internal medicines to the relief of the pharmacopœia and to the well-being of the human race.

Practical therapeutics takes its character, mostly from the great middle class of doctors whose minds are slow to the evolutions of medicine.

Hughes Bennet wrote: "So persistent are the doctrines of the past that, notwithstanding the facts which were made public in 1857, and notwithstanding that an antiphlogistic practice in this country is universally abandoned, every systematic book, up to this date, 1864, still recommends blood-letting, antimony and calomel."

This is an epitome of medical history—a few leaders that point the better way, and many that apply their art with great fidelity to old customs.

The materia medica of every period has been expounded with the greatest zeal by those who were behind the times.

When we re-call the drugs that have been administered and the history of their worthlessness, it is marvelous that the belief of the people in the healing art should remain so true.

The doctor's aim, however, has always been noble,

and the light of these later days is defining clearly his splendid service to humanity.

His greatest work is to teach the ways of correct living, to win the public mind from medical fallacies, and to demonstrate that prophylaxis is the very essence of cure.

Nature alone can heal is the great fundamental law that illuminated the teachings of Hippocrates, and was taught by Paracelsus, Sydenham, and many other illustrious men; but all through the centuries this truth has been more or less obscured by the somber shadows of false practices.

Standing in the brilliancy of latter-day knowledge, we are prepared to avoid the errors of the past. Drugs that have fallen into disuse and the still greater number of unwholesome formulæ, should be expunged from our books.

Physicians should concentrate energies to a clearer comprehension of fewer remedies, and to a better administration of them.

However brilliant therapeutical suggestions of the advance guard may be, it is not until they become the personal equations of the rank and file of the profession that the greatest good is done to the greatest numbers, and practical medicine is made co-equal with scientific attainments.

LIFE AND ITS ASSOCIATION WITH MATTER: MATTER NOT VITAL BUT ABSOLUTELY CHEMICAL.*

BY E. C. HEBBARD, M.D., BOSTON, MASS., MEMBER MASS. MED. SOCIETY.

PART I.

THE fundamental basis of the progress of all science is the intelligent criticism of hypotheses as advanced by investigators of natural phenoma, and is dependent upon it for the stripping off of the layers of hypothetical assumption with which it is cumbered, and laying bare the scientific fact.

The use of the criticism of scientific hypotheses is really positive, since is serves not only as an organon for the expansion of scientific knowledge, but also as a discipline for its delimination, while it is apparently negative, for, in discovering the error, it most certainly, at the same time, discovers the truth.

All sciences are judged by their powers and qualities.

As to the Science of Medicine, it is impossible to form any adequate idea of its powers and qualities otherwise than from the most careful and exact experiments, and the results of the observations of those particular effects under different circumstances and conditions, because of the limited conceptive capacity of the human understanding corellative with the consciousness of Force acting upon us, or to the physical organism through which mind perceives.

If we know so little of that Force that is in such close alliance with our intelligence, how can our human intellect (that is the intelligence limited by the confines of the physical) grasp the significance of the ultimate nature of Force in any of its other forms, except through those hypotheses based upon our conception of the Material Force traced to the fountain head.

To speak of identifying any kind of force with matter, is to ambiguously refer to that force acting upon matter, and that which produces in matter its appropriate effects, but of whose real nature, or of the measure of whose operation, invisible and imponderable as it is we can form no adequate conception otherwise than as it becomes cognizant to us according to the forms of matter through which it manifests itself to our intelligence set free from scepticism.

The uniformity and perpetuity of the law of natural forces afford to the finite intelligence the opportunity, through examination of them in their multitudinous effects, to rise upward to the one great source of all law.

Reason must be founded upon some primary truths which cannot be denied.

The science of medicine is obtaining a decided hold of the idea that all kinds of force are but manifestations of one central force issuing from some one head source of power.

It is unphilosophical and unreasonable to argue on a basis contrary to the presupposition that force is identified in all its forms otherwise than with the direct energies of an Omniscient and Omnipresent volition, and in the application of these intelligent hypotheses to progressive medical science, the analogy is, according to reason, precise and accurate.

There are, as has been conceded by sceptics, many things in Nature, the reason whereof does not clearly manifest itself, but can we, intelligently, presuppose any one of those from which we must exclude the idea of purpose by the successful discovery of cause? Now then:—

Correlation of growth in the sense of external adaptations, is, admittedly the most universal of all natural laws, but it does not afford any reasonable accounting for the origin of Organic forms, except in the identical sense in which it accounts for the origin of all other phenomena which must in result, exhibit adaptations and fittings into use and service.

We are taught to believe that external correlations are a result arising from natural physical causes that work to order; but no such indefinite explanation as this will satisfy us regarding the method of the evolvement of a new form of life through the vital forces; because it would not satisfactorily settle the question as to the adaptation of that form to the external requirements of its life.

In how very limited a sense, then, can any theory trace the creation of life to a law; and how wholly inadequate and unsatisfactory is any such theory in accounting for the origin of species by any physical cause whatever.

What is life?

Huxley has spoken of, "That combination of natural forces which we term life." This is, of course, a purely rhetorical definition.

Darwin's theory, strictly speaking, is not on the origin of species, but simply "a theory on the causes leading to the relative success or failure of such new forms as may be born into the world." It is therefore, not a satisfactory definition of life at all. To return to Huxley,—"Organism is the product of life, and not life the product of organization."

Spencer, the representative of evolutionists defines life as "the continuous adjustment of the internal relations to external relations."

Said Sir William Thompson (now Lord Kelvin) "This seems to me to be as sure a teaching of science as the law of gravitation, that life proceeds from life and nothing but life."

Said Tyndall: "In the very nature of things, the animate cannot have origin in the inanimate. There is no such thing as spontaneous or equivocal generation, no heterogenesis, no new germ. Physical forces, heat,

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light and electricity, are no more competent *per se*, to give rise to life than they are to give birth to thought. There is no plastic force apart from that imparted by vitality, and this itself is divine. Force indeed, is blind and matter inert, while the origin and regulation of the phenomena of life, be it never so lowly, must, of very necessity, be referred to a source extrinsic to themselves."

Here we have before us some of the prevalent opinions regarding life, although not, strictly speaking, from a scientific standpoint.

In the writings of the ancients we find no argument, no train of complex reasoning on the relations of the material and immaterial; no profound research into the origin of matter, its properties, its qualities, its creation and primordial condition or its external existence. The Egyptians, according to Herodotus, ascribe all things to a winged egg; while the Persians, says Eusebius, made the principle of the universe a tempestuous atmosphere. See Note 1.

Following the theories of the Greeks, we learn that Thales, the Ionian, made water the universal principal; Plato maintained that the universe was arranged by the power of God, but that the deity was incapable of such a creation. He held that ether was purer and higher than air, a form of matter. Zeno thought that the universe, as it now exists came into existence through its own energy.

Aristotle reinforced the philosophy of Plato, and Epicurus declared that all things had sprung from a fortuitous concourse of atoms.

The object of this paper is to set forth clearly a theory regarding life, and its association for a limited time with so-called organic matter; the results of studies in physiological and pathological chemistry; and the means that should be adopted for the scientific treatment of disease, thus removing medicine from its pedestal of rational impiricism to one of scientific verity.

Life, is an imponderable agency which manifests itself as a controlling power over the molecular movement in all animal and vegetable life.

Time, space, darkness, life, are continuous entities; passive conditions of phenomena. Darkness is a positive entity because sustained. Light, a negative entity because dependent.

Matter is indestructible, so life *must* be, as it is superior to matter.

The constant change matter is continually undergoing, is due to the action of physical forces.

Anything absolutely positive is not sustained.

Matter sustained but transformed, is subject to constant change, but is indestructible.

Life is an entity, not an abstract. It has nothing to do with force, which has connection only with matter.

Life is not the progeny of cells but a psychic continuation.

All matter is discrete, and so continuous.

Of the two theories heretofore held by speculative minds in regard to mind and matter, the one was based upon the infinitive divisibility of matter; and the other upon the theory that matter was not infinitely divided.

According to the first theory of matter so small as to be incapable of further division, there could be no conception; it necessarily follows, then, that the substance would be destroyed by infinite division and substantia become non-substantia, which is impossible.

Now, a logical reason for our nonbelief in this view is that, after physical division has reached the limit of its power with regard to compound substances, these may be yet further divided into dissimilar bodies by chemical means, giving us the atom, in verification of the theory of Democritus.

The molecule of the physicist is the limit of physical subdivision; the smallest quantity of matter that is capable of free existence.

The second theory regarding the constitution of matter is, that in the continuation of division and sub-division of solids, liquids and gases, a point will be ultimately reached where division of the molecule will be impossible; a molecule being a real entity, not composed of two parts or, in other words, an atom.

Matter, therefore, as viewed from the standpoint of this theory, would necessarily be considered as essentially granular in its nature, or composed of discrete aggregates, and built up of an aggregation of atoms, and having contiguity and interstices.

Certain authorities, have shown that matter, in its ultimate analysis, would be found in all instances of like nature throughout, as its weight depends upon the quantity of the matter, and not on the quality.

Modern authorities, defining matter from a physical point of view, declare it to be anything that can affect the senses, or that can be acted upon by force.

It is further stated as a scientific fact, that, as we can know matter only by the force it exerts, it may be clearly seen that the supposition of mere geometric points will account for all deserved phenomena as satisfactorily as any other theory regarding the ultimate nature of matter. (The geometric points referred to being technically termed centers of force.) We are supposed to conclude from this that, if matter is not granular, and does not possess inertia, it can be reduced to mathematical points. There can be no other conclusion, if we argue that matter is incapable of infinite division, as infinity would mean nonentity; and space is the only nonentity of which we have any knowledge.

Now, coming back to our theory: Matter is dead. Matter, in all instances of its manifestation, is merely a nucleous for action and association.

As every material thing in nature is the representation of all those units which produce it, so man is a representation of all those units which produce him.

In establishing a system of philosophy founded upon science, there must be accounted for every element that goes to make up the complete whole; that mysterious entity which we call life, as well as the element matter, with which life is associated, and through which it manifests itself.

I maintain that matter is essentialy granular in its nature.

Should we proceed in the minute division of matter, we would arrive at what would be the first degree removed from the mathematical point, beyond which we could not go. As the substance, or granule, is indestructible, it could not become the non-substantia, nor merge into the continuous.

Matter, in its infinite division becomes almost continuous; therefore life being superior to matter must be a continuous aggregate, which cannot be made up of parts, but must be of like nature throughout; whence the deduction that it defies analysis, and cannot be brought into the light of experimentation, except as being manifested through a material body.

In stating that life is continuous, we are merely stating our belief in its immortality. Matter is elevated and brought by chemical and physical interchange into association with life.

Life and matter have, on these grounds, been shown by mathematical demonstration, to be distinct and dif-

ferent; hence it follows as a consequence that, if the forces in nature, and the way they operate can be accounted for, it will be easy to establish a philosophy that will embrace all known phenomena.

This is exactly what we desire to accomplish, and to this end we reason on a theory of three ethers instead of one which is wholly matter. The first ether being life, which comes from supernatural source; the primordial units having been arranged, and having received the impression of life.

The second ether is a composition of the potentialities, heat, light, electricity and magnetism; mechanical power being manifested during the activity of these potentialities.

The third ether is a material nucleus which permits of the action of the other two ethers.

All bodies manifesting the second and third ethers independently of the first, make up all inorganic bodies.

Organized bodies require all three ethers. These two conditions constitute all things natural and supernatural.

This system of philosophy is of inestimable value in practical adaptation and results, establishing, as it does, an absolute difference and distinction between life and matter; and proving, as it does, that they are simply associated; wherefore it is rationally deduced that the greatest of all beneficial results must come to the world by the establishment of a system of medicine based upon this difference between life and matter, and proving that matter is governed *purely and simply by those laws that govern the material that composes the body, and the processes that go on during the association of the life and body.* (See note No. 3.)

Thus, from the chaotic and confused deductions of philosophic and scientific research, is evolved harmony, a rational hypothesis, an intelligent scientific basis for the formulation of a complete system of medicine and philosophy.

Life at the beginning, by divine impression, enters the second ether (a composition of the potentialities), from whence it passes to the tangible substances; nature having prepared them for the inception of life.

Man's state is reached by an evolutionary process in perfect harmony with the manifestations of the reign of creative force as directed by creative omniscience, and in fulfilment of creative purpose.

The progressive differentiation from the lowest forms of life to the highest, man, is presided over by the supernatural agencies, in which intelligence in the form of the Creator, reigns supreme.

The Creator is not to be found in the universe in any morphological form. He dwells then, in the mind in a subjective sense, and although omnipresent, is never objectively manifested; it being only when the subjective part of man exists as a distinct entity, that he can ever know God.

This method of reasoning will show the way in which wrong ideas have arisen, causing irrational methods of application; and that the origin of the mental powers, and the faculties of observation, are due to intuition from gestation of thought, upon which man is dependent for his executive capacity along any line of accomplishment or attainment.

We have learned that every material thing in nature is the representation of all those units that produce it; therefore man is the representation of all those units which produce him.

Evolution teaches that the one living unit was the cause of the appearance of all living units: the simple monad gave rise to those complex aggregates over whose formation preside the most mysterious agencies.

Nature, in virtue of its own power, could not elevate matter without supernatural assistance, in such way as to produce all things animate and inanimate; organic and inorganic; therefore supernatural agancies must have impressed nature with the power to originate the means for animation to appear, in addition to the continuation of all those peculiar changes constituting its eternal passivity.

The perpetual changes of eternal passivity having been established, the supernatural combined for the production of man.

This process began with the simple unit in which life was first manifested, the mysterious division and subdivision of which is not yet understood; yet it goes on, splitting up and taking to itself by selection, as if possessed of a supernatural intelligence, those things only, which in its differentiation is required, until ultimately, a complete species is evolved.

Whether possessed by the unit or the influence directing the unit, wisdom is certainly here manifested.

There is an agency, not acknowledged by all physicists and chemists, engaged as an architectural designer in directing the influences to form exact units, a combination of which permits them, under examination, to bear evidence of perfection and symmetrical aggregation.

Supernatural agencies were at work before matter was in the state necessary to evidence life, in the form of influences of design; the origin of which influences it is simply absurd to attempt to explain by any known laws.

The condition for life must have arisen before it became necessary to arrange her units in particular order; this arangement having been completed, the units were ready for the inception of life coming from the supernatural source.

This explanation is necessary in order to show how nature and the supernatural reciprocated in the production of man.

The forces acting in the accretion of the units of the nebulæ in forming all the chemical compounds, were the forces used by nature to prepare the units for the manifestation of life.

This being the case, it should no longer be a momentous question as to how the binary becomes ternary, or how life first made its appearance on earth; thus demonstrating that the means of preparation were chemical, and the endowment of life supernatural.

A microscope sufficiently powerful would reveal to us the granular forms of matter, since none but discrete aggregates exist in nature.

As most of the living units of infinitesimal proportions come within the scope of vision, it is not unreasonable to conclude that such a microscope would bring into the range of vision other units whose bodies would be little removed from the mathematical point which is position only without magnitude. See note No. 4.

Supposing such to be the case, how far would the life, acting through their material, be removed from a continuous aggregate?

An entity having no relativity with matter or force, nor anything in common with them, must be of like nature throughout, and the only thing that could preserve its entity without viscosity, allowing no eternal friction, nor offering any resistance to change of shape; and, having neither internal nor external resistance to overcome, passing with impunity through any known tangible substance, and requiring no material source of supply.

From this fact comes the right to assume that life is a continuous aggregate.

Now, in continuing, there is no such thing as a continuous aggregate known in nature. The most perfect solid and the most perfect fluid of which we have any knowledge evidence degrees of viscosity. Nothing with parts can be conceived of as being continuous. The only continuous thing, which itself is a nonenity is space (as heretofore stated), which is known as the condition of phenomena, or, the container of all the contained. It is a concept of relations, and contains the the principle of infinity.

Every phenomenon in nature is a manifestation of the atributes of all discrete aggregates. For a continuous aggregate, we must look to the supernatural.

The entire process of evolution, then, summed up, means that the discrete by separation eliminates from the almost continuous, the successive stages of which can be manifested in no other way than that life is the continuous aggregate or the first ether, the luminiferous ether itself is the second ether, and all tangible substances, of which we possess any knowledge, in the inorganic world are a composition of the second and third ethers. All organized beings are composed of the three ethers.

Life, the first ether, enters into the potentialities of the second ether, from which it passes to the third ether, or the material tangible to us.

[Note No. 1.—In the ancient Arabic philosophy appears the following: "All things are governed and subsist in these three principles. From these flow the body of the triad, being pre-existent. The mind of the Father said that all things should be cut in three, governing all things by mind. The Father mingled every spirit from this triad, and all things are governed in the bosom of this triad. For the whole world shineth a triad over which a monad rules. Power is with them, but mind is from Him." "The ethers of the elements therefore are there; the impression of characters and of other divine visions appear in the ethers." "God is silent, concent with mind, and is known by souls through mind alone."

From "Oracles of Zoroaster in Ancient Fragments of Chaldean and Egyptian Philosophy,'" by Isaac Preston Cory, Fellow Caius College, Oxford, 1832.

Said Sir Isaac Newton in a letter to a friend in the year 1676: "The frame of nature may be nothing but various contextures of etherial spirits condensed as it were by precipitation, something after the manner that vapors are condensed into water, or exhalation into grosser substances though not so easily condensible and after condensation wrought into various forms. At first by the immediate hand of the Creator and ever since by the power of Nature who by virtue of the command to increase and multiply became a complete imitator of the copies set here by the protoplast." Thus may all things be originated from ether.]

[Note No. 3.—It will be seen by the above that to treat disease successfully not only matter but the force controlling it must be administered to.]

[Note No. 4.—There is always a center to every substance in nature, and also a counterpart. That there is a limitation to the conception of division can be proved mathematically. It is said and generally accepted by all readers of text-books that we cannot conceive of anything so infinitesimally small but that we can conceive of its being still smaller. Such is not the case. If the mathematical point is position only, then there is no such thing as a mathematical point because position presupposes substance; the mathematical point must be the first degree removed from position which is the beginning of magnitude; therefore the mathematical point concerns itself only with substance; beyond this the substance would be the condition of phenomena or the condition of infinity. The finite commences a degree removed from the infinite; therefore the beginning of substance must be the mathematical point which is the beginning of magnitude or substance. The first degree removed from the infinite cannot be conceived of as further divisible; the ultimate being reached when reduction is carried to the ultimate, which is the last degree removed from infinity.

Now, since physical differences of substances arise from the difference in the relative position of the atoms arranged in substances, it follows that all matter was originally one kind, and that the different chemical elements arise from such arrangement as we know of so many different physical substances having the same formulæ.

This proves that all the elements in nature are made up of the same primordial material, differing only in their degrees of attenuation, and not materially. The mysticism of arrangement is the principle object of consideration to account for the many different elements in nature. As in the case of vitality, something must be added to the material to give it its distinctive characteristics for the authority of the elements to appear.

If there is no limitation to the conception of division, then by reduction something must of necessity become nothing by constant and increasing disintegration. This neither science nor mathematics could under any circumstances admit.

Therefore there must be a limitation to the conception of division, which has been proved.]

THE RELATIVE VALUE OF SOME COMMON OILS.

BY W. T. PARKER, M.D., WESTBORO, MASS.

AMONGST the alchemists the term oil had a wide range of application, such as "oil of vitriol," "butter of antimony," "butter of tin," entirely dissimilar from cow's butter in constituents, although resembling it in physical consistency. Even when such wholly inorganic compounds are excluded, the term oil has still an extremely elastic meaning, being employed to designate a very large variety of liquid substances, natural and artificial, which have but few features in common beyond the fact that being all organic in character, they are capable of burning with more or less facility under suitable conditions, whilst with but few exceptions they are practically insoluble in water.

The resulting expressed oil acquires a buttery consistence at the ordinary temperature, but is usually somewhat softer than cow's butter; by thoroughly churning it up with fresh or, as some prefer, sour milk, and a little minced cow's udder, it acquires a slightly prime consistence and a buttery flavor. Cotton seed and peanut oil are often mixed. Stale butter is often mixed up with hard fats and vegetable oils, and the methods for deceiving the public have given employment to chemists of superior ability.

Virgin oils and first runnings are generally prepared from choice oil sources (olives, peanuts, etc.), by gentle pressure without heat—coarser grades being subsequently expressed by stronger pressure and heat combined. In Eastern Europe, parts of Russia, hemp seed, poppy seed, and even linseed are used for cooking oils—olive oil and cotton-seed oil are used for frying fish and light cooking operations.

An excellent editorial in the New York MEDICAL TIMES under the title "Death in the Pot," discussed some time ago *food adulteration*, which in the United States seems to be an art or science which is being as carefully developed as the equally interesting science of breaking into safes and bank vaults. Our people carried away with the new responsibilities of imperialism seem to be neglectful of adulteration in our food supplies, and the evil is becoming so very formidable that our medical journals must come to the rescue promptly and energetically if the danger is to be checked.

When we study food adulteration we are brought at once into contact with cotton-seed oil, a product which has in its way accomplished as much injury to mankind as to offset the good which cotton supplies, necessity though it be.

From United States consular reports and from other sources we have collected some interesting data concerning the purest and most wholesome of all oils that obtained from the olive, and one of the most harmful of all oils that obtained from the cotton-seed.

We also offer some information concerning peanut and sunflower oils. Cotton-seed oil is described so very generally as being harmless and pure and convenient that on this very account its dangerous character is masked, and thousands make use of it daily, utterly ignorant of its dangerous menace to health and life.

It is largely used to deceive and to adulterate. So while we may call olive oil the sacred oil from its use for many centuries, yes, even thousands of years in ecclesiastical ceremonies requiring purity, cotton-seed oil seems to be possessed of the devil, or by the devil employed to deceive, to poison and to injure. It strikes at the root of legitimate commerce and crowds out of all necessary substances, and as the cheap, noisy little sparrows drive away our beautiful, welcome songsters, so cotton-seed oil plays havoc with normal commerce. One of the trials and tribulations in this world of ours is *substitution*.

It is hard to say which is the greater evil, adulteration or substitution. Dishonest products of beef, milk, honey and oil are a few illustrations which medical men will instantly allow have become a real trial and a decided danger to public health.

In beef supplies we find canned corn-beef and other preparations often decidedly dangerous to health and almost always practically worthless as nutrients. Beef extract under various names is offered the public with certificates purporting to demonstrate that a small vial holds the nutritive value and essence of at least one good sized beefsteak.

Our medical journals have vainly endeavored to expose this ridiculous fallacy.

Milk is so generally adulterated and so apt to contain disease germs from the foul water added, or from careless exposure and decomposition, that many people are giving up its use.

Thus the greediness of milk vendors will defeat the very object they have in view, by their dishonest schemes, to make one quart of stale, worthless milk do duty commercially for two or three quarts of standard milk.

So with the honey business the honest bee keepers have discovered methods for deceiving the public, and honey so prized on account of its delicious sweetness and healthfulness, is injured in its sale by the overreaching of greedy tradesmen.

But all that is true of the adulteration and substitution in meat, milk and honey applies with more than double force to oil. Oil which is pure and wholesome is difficult to obtain. The substitute and adulteration in the sale of olive oil has greatly injured the sardine business, and has extended through every possible channel of trade. Even the sanctuary has been invaded, and the sacred olive oil which for thousands of years has always been employed before the holy altar, has actually been driven out to make room for substitutes like rape-seed, or cotton-seed oil, or has been adulterated to such an extent that no one can tell by examination what the product is in the holy sanctuary lamp! Not only has olive oil been crowded out and brought into disrepute by adulteration with cotton-seed oil and by substitution in commerce by this cheap American product, but in medical practice it has been almost impossible to create any demand for the pure olive oil because what is called olive oil is worse than worthless.

The German physicians make use of olive oil externally and internally in practice, and it ranks as an application of the first importance in the treatment of pneumonia and other chest diseases. Inunction with pure olive oil has been used with great success in the treatment of wasting diseases in children and as a cathartic in place of castor oil. Its use in colic of gall stones is well known.

The olive tree flowers every year, but most farmers are content to try to get a good crop every two years.

Olives to be preserved are picked green in September, those destined for oil from November until May; but the best results follow mid-winter harvesting, although some prefer the oil made from olives gathered as late as February.

Olives should be picked, although some spread sheets upon the ground and knock down the fruit, injuring the fruit thereby.

Olive oil is one of the most easily digested (*when pure*, of course) and most palatable of any of the fats.

Olive oil of the best quality is absolutely without flavor of any disagreeable character. The pure French olive oil introduced into this country by one of our leading wholesale grocers is unfortunately very expensive, but is most wholesome and delicious.

Physicians prescribing olive oil for external or internal use among the poor or those in moderate circumstances cannot at all depend upon having their prescription filled except by some mixture of inferior olive oil with cotton-seed oil.

Like some miserable specimens of butter, there is just enough wretched olive oil in the mixture to allow the druggist to *declare* that this is "olive oil."

One would think that where food for the use of the sick is adulterated—like oil, wine, butter—the penalty for such adulteration should be heavy. Milk for sick infants' use is often of such wretched quality!

Generally speaking, the olive will flourish wherever the *vine* does well. It will not bear a temperature below 21° F., and cannot be grown in Europe above the latitude of 40° F. Many trees in the French Riviera have been destroyed by cold winters.

The localities in Italy where the olive grows best are Sicily, Calabria, Lucca and the Riviera. The Lucca oil label is known to every one and is supposed to be the best, but has beside the famous French Riviera oil *others* as competitors. The label Lucca is used in some miserable mixtures of cotton-seed oil.

The olives for eating come from Spain, those from Italy being inferior. The olives of the plains yield more fruit than the hills, but are more fatty and less delicate.

The olive is a slow growing tree, rarely bears fruit under fifty years, when raised from the seed, but it lives for centuries.

The monster olive near Nice is said to be a thousand years old. Four feet from the ground the trunk has a circumference of 23 feet. It is said to have yielded 500 pounds in a single year.

The olive trees of the Holy Garden of Gethsemane are supposed to have existed in early Christian years. The olive blossoms in April. When the fruit is ripening it is indeed a beautiful sight, the boughs are laden with the plum-shaped berries varying in tint from bright green to dark red and purple. The picking season is in autumn.

From November till January the fruit ripens. It is gathered by picking or by shaking the tree. It is stored in dry rooms until a sufficient quantity is obtained for pressing.

The mill used is not unlike an ordinary cider mill. When the olives are reduced to a pulpy mass this is placed in baskets of hemp made in a peculiar manner, ten or twelve of these are piled together and pressure applied.

The oil thus obtained is called *virgin* oil and is of the first quality.

Boiling water is then poured on the mass to obtain the remaining or "refuse" oil.

The oil is preserved in earthen jars, huge affairs made for this purpose, varnished on the inside, or in cisterns cemented, tightly closed to exclude air and light.

The olive is cultivated in South America, where it was introduced by Antonio Ribera in 1560.

The olives of the San Diego Mission in California grew from seeds obtained from San Blas, Mexico. Residents of California have been accustomed to consider a small bottle of "Mission oil" for their salad as a treasure, *for it far* surpasses in purity and sweetness any imported oil.

The Italian workman finds bread and oil and wine an ample mid-day meal, and well he may when all three are pure and sweet and wholesome!

An old Tuscan saying is: "Plant a vineyard for yourself, an orange grove for your children, and an olive orchard for your grandchildren."

The future of olive growing in California is very hopeful. One grower employs Italian laborers. If we made use of the Italian laborers in this country there is no reason why the industry should not thrive and assume important dimensions.

In Italy olive oil is used in cooking, and takes the place of butter, being considered more wholesome than animal grease.

Olive oil has beyond a doubt the pre-eminence among all oils. From the earliest times its use in the most sacred ceremonies known to man, its wonderful purity and deliciousness, the venerable character of the trees which bear this sacred fruit, the presence of these trees in Holy Gethsemane—all these facts make this oil of a mysterious sacred character, but perhaps more than all that our Redeemer blessed it, and commanded his followers to use it in anointing the sick.

The fact that quacks and Christian Science advocates pretend to heal by prayer and in some instances by anointing does not invalidate the reverence which every sincere Christian must feel for this sacred oil.

Regard this juice of the olives in whatever way one will as nutriment, as salad, as medicine, as external application, or in the light of the sanctuary, or in healing, or in the extreme unction when the blessed sacrament cannot be used, olive oil is the queen of oils, and worthy of strong laws for its protection.

More oil is extracted from oleaginous seeds in the city of Marseilles than in any other trade center in Europe. After a period of depression resulting from the introduction of American cotton oil and failure of seed crops elsewhere, the trade seems to be again flourishing. The crushing of peanuts constitutes one of the most important branches of the industry. As there is no special machinery or process involved in the manufacture of peanut oil not also required for other oil-seeds, most of the resident manufacturers crush arachides, or peanuts, when the market conditions are favorable, but not to the exclusion of other seeds.

Peanuts are scarcely ever ground whole. Such a process produces an inferior quality of oil and a cake of little value. In fact, many of the nuts arrive in a decorticated state, after which the inner, or red, skin is removed as much as possible by a system of scrapers and winnowers.

Crude peanut oil runs out thick, and must be filtered to make it bright yellow. To produce a water-white oil—as in the case of all other oils—it must be bleached. This is done by treating it with animal black and fuller's earth. It is contended that no alkaline lye is used, but the art is somewhat secret. Large quantities are thus bleached. Superfine peanut oil is considered brighter than American prime summer yellow cotton-seed oil, being yellow, with a slightly greenish tint.

Consul Skinner, of Marseilles, France, reporting to the Department of State, says (Feb. 12, 1900) concerning the uses of peanut oil: "It is the most polymorphous of all oils, adapting itself to all purposes, including nutrition, lighting, lubrication, and blending. It is the most difficult to detect when mixed with olive oil, because its chemical reaction is white. There is no likelihood that it will ever be driven out by cotton oil."

"Sunflower, a genus of plants of the natural order composetal, having large flowers. The species are numerous. It is a native of tropical America. The plant is now cultivated in almost all parts of the world and in the south of Europe is sometimes a field crop, the seeds being valued as food for cattle and poultry, and on account of the oil which they yield, which is little inferior to olive oil.

"An acre of good land produces about fifty bushels of seed, each bushel yielding a gallon of oil. The seeds are also used like almonds for making demulcent and soothing emulsions. The American Indians made bread of them. Infants' foods have been made of the seeds.

"The flowers abound in honey and are much frequented by bees. The leaves are considered fodder for cattle. Quite an industry has developed by exporting sunflower seed oil from the Black Sea provinces of Russia. Of late years the oil obtained in Russia from sunflower seeds has very largely displaced the other cooking and table oils (chiefly poppy and hemp) in popular estimation, and the cultivation of the plant has increased enormously; with due care in the drying and cleaning of the seeds, the oil first expressed is equal to the best French table oils in color, flavor, and taste. The shells form a considerable article of trade for heating purposes, whilst the stalks, dried in piles, are preferred even to pine wood for producing a quick and hot-flame fire; each acre yields about 2,000 pounds of such firewood and some 1,350 pounds of oil. The ashes contain much potash; 1,000 pounds of dried stalks yield 57.2 of ash, from which about .35 per cent of the best potashes are obtainable. The oil cakes are looked upon as the best in Russia; inferior to either hemp or rape seed cake; upwards of 2,000,000 pounds are exported by the Government of Sarato alone. The seed cups are used as food for sheep. In the larger mills, the process of ex-

traction is much the same as that used in England for linseed, rape seed, the shelled seeds being dusted and crushed to a paste in a steam-heated vessel; the warm paste is wrapped in camel's-hair webbing and pressed. Out of 104 oil mills in Russia, 85 are employed solely in obtaining sunflower oil, steam being used in 24, and manual labor only in the others.—*Journal Soc. of Arts*, March 18, 1892.

COTTON-SEED OIL.

In 1883 it was discovered that a mixture of fat of swine, beef stearine and cotton-seed oil would make a *lard* which would pass muster with all but experts.

This knowledge was susceptible at that time of very profitable use, as a pound of cotton-seed oil was then worth less than six cents at Chicago, while lard had been selling in that market for more than two years at an average of more than *eleven* cents! In 1897 cotton-seed oil could be laid down in Chicago for 3½ cents per pound, and by an admixture of beef stearine can be converted into 4½ lard. (*Forum*, 1897.)

In 1889 one-third to one-half of all edible lard entering American commercial channels was of this character. The season of 1889 turned out 225 millions of pounds of "compound lard."

Doubtless more or less cotton-seed oil as a constituent of lard had entered commercial channels before 1883, but if so the secret was confined to a very few.

During the six years ending with 1895 an annual average of 8,100,000 was grown on an area averaging 20,000,000 acres.

Each bale represented the production of 1,000 pounds of cotton seed. The average cotton crop affording 120,000,000 gallons, or 900,000,000 pounds of cotton-seed oil. (*Forum*, 1897.)

I have seen the great "tramp" steamers at Hampton Roads taking this seed to France there to be ground and returned to this country invoiced as "olive oil." The largest portion of the crop is disposed of in this manner.

Considerable quantities are taken to Maine in connection with the trade in the fry of smelts sold to the unsuspecting public as "Sardines." Less than one-half is used for fraudulent lard, while a very small proportion is honestly labeled *cottolene*.

This art of fraudulently using cotton seed has been employed by the Hindoos for hundreds of years before the discovery of America. The first attempt made in this country to extract oil from the cotton seed was at Natchez, Mississippi, in 1834.

When the season is not too dry the seed is rich in oil and yields readily thirty-five gallons to the ton.

When well stored and properly ventilated it will keep a year. It is liable to become rancid in the hold of a vessel, and if stored long is liable to spontaneous combustion.

It is marvelous to consider what is being done to-day with what was a waste product in this land at least a half century ago.

Are there not other waste products capable of being applied as sources of wealth and usefulness?

Possibly in another generation the cost of living will be diminished by the employment of waste products, but sometimes what seems for the time advantageous turns out like cotton-seed oil to be capable of inflicting bodily injury upon thousands yearly and seriously crippling legitimate commerce.

It is man's fault that cotton seed, which might be employed exclusively for honest, useful purposes, is most largely used to deceive in substitution, adulteration and deliberate fraud.

Cotton-seed oil has no especially bad flavor, but it is unpleasant and indigestible when used raw *as in sardines* and *salads*.

The after-taste in most specimens reminds one of castor-oil.

Any one who has eaten cheap olive oil or cheap sardines has noticed the disagreeable taste. In some specimens of cotton-seed oil this taste is disguised, but the injurious effects are *not lessened* thereby by any means.

The decline of the sardine trade during the last four years is largely owing to the fact that cotton-seed oil has replaced the sweet olive oil in the packing of the fish. People who once regarded sardines as a delicacy no longer find them satisfying or even palatable.

When cotton-seed oil is chilled, a portion solidifies as solid glycerides; when these are separated by "bagging" or the use of a filter press, and subsequently subjected to hydraulic pressure, a completely solid fat results. The more solid substances thus obtained are largely used as ingredients in artificial butter; the physical characters, and especially the melting point, vary somewhat with the extent to which the expression has been carried; usually cotton-seed stearine is pressed so as to melt at a little above 30°.

In the manufacture of artificial butter several processes are in use whereby the more fusible portions of fresh animal fatty matters are separated from the more solid constituents, so as to yield a mass of buttery consistence which when treated with annatto or other harmless vegetable coloring matter, and churned up with milk or otherwise treated, so as to acquire a weak buttery flavor, furnishes a cheap palatable foodstuff."

The sale of such foodstuffs under the name of butter is decidedly a fraud upon the public. These inferior kinds of butter or oleomargarine are not invariably of harmless character, as the earlier forms of tapeworms (cysticerci) and other entozoa are frequently contained in them. Beef-stearine is largely used in the manufacture of fictitious lard by incorporation with cotton-seed or other fluid vegetable oil.

Artificial lard is sometimes applied to various mixtures of "beef stearine" (*vide infra*) and cotton-seed oil, or similar hard fats and vegetable oils in such porportions as to give a product possessing the constituency of genuine lard. These substances are less frequently sold under names clearly indicating their nature than used for admixture in larger or smaller proportions with genuine lard for purposes of sophistication. According to some writers adulterations of this kind are becoming much less common than they were a few years ago; but it is doubtful if any great improvement has really taken place in the trade, as a whole.

TYPHOID FEVER IN THE CHILD.

BY G. R. JOHNSON, M.D., PHILADELPHIA.

THIS child illustrates my text; it is eight years old. It has fever, and pain in the abdomen; there is no cough, no headache and no nose-bleed. The pulse is 110, the temperature has been between 104° and 101°. This is a typical case of enteric fever in a child.

You see here a very beautiful form of apparatus for applying cold to the abdomen, one of the most perfect methods. The original method was put in operation by Leiter of Vienna. He had a plate fitted to a portion of the body, then tubes of black tin over it to hold the water. I presume it was in the mind of some intelligent

nurse to substitute these drainage tubes for the tubes of tin. One can easily make this apparatus for any portion of the body. Leiter's plates are made for the head, arms, breast, leg and thigh, besides the abdomen.

This brings up what we know of enteric fever in children and infants. First as to the case of this boy. He is in the tenth day of his illness. What are the peculiarities of the manifestation of enteric fever in childhood? There is the usual absence of the clinical manifestation of the disease in the beginning. It is seldom sudden in onset. The clinical course is much modified by the great sensitiveness of the child, and hence we have two important things: (1) the predominance of nervous symptoms and (2) the insignificance of enteric symptoms. The child is often suspected of being ill on account of some nervous symptoms.. A child was brought by its mother to my office for a cough. There was the abnormal sensibility due to enteric fever, and the one thing that attracted the mother's attention was the cough.

Then as the disease develops we have other symptoms. Very soon the abdominal symptoms develop, and there is marked tenderness and distention—the classic symptoms of typhoid fever with the formation of gas. If it goes on in the normal manner, often a very obstinate colitis appears, the cause of a fatal termination in many cases. The child is not so apt to have the complications of hemorrhage and cerebral symptoms, but it does often have this colitis. The stools have a foul odor, are mucoid and sometimes blood-streaked. The blood supply to the child's intestines is very free, and they are very liable to infection.

This child is absolutely comfortable. He has not reached the active stage of the disease. The pulse is rapid, the temperature is a little raised and the tongue is dry. The rise of cold is probably the most efficacious means of subduing abdominal pain and reducing the tremendous shock without in any way complicating the disease. I must urge its use on you as of great importance.

We will go on now to discuss the ways of infection and means of treatment of enteric fever.

There is another case here. The temperature is 103°-104°, the respiration 30, and pulse 110. There is a fall at the present time. He is twelve years of age; has had the mumps; became sick a week ago with headache and a tired feeling, and a badly-coated tongue. There is tenderness on the right side of the abdomen; no nosebleed. The skin is a little moist. There is a little tympany, but the abdomen is flat. This illustrates, just as the other case, the first stage of enteric infection. There is in neither case any severe complication that we can point out to you.

We will briefly review what we know about the means of infection. The ordinary pregnant woman will resist infection because her blood is rich in hemoglobin and red blood corpuscles. When she does get enteric fever we must consider the effect on her and the effect on the child.

The effect on the mother depends on her general condition and on her age. I have in mind one young woman who in her pregnancy has passed successfully through an attack of enteric fever, with the best possible surroundings and care. She was twenty-four years old. Then came the question of the older woman. I have seen a number of times a young woman of seventeen, who belongs to a family of good looks, and, more than ordinarily, gifted physically and mentally. This young woman drops her right hand and drags the foot and speaks slowly, and is not so active as the other members of the family. When she was a fœtus in the womb, the mother, who was not young, passed through a very severe infection, with free hemorrhage. This child was born with a lesion of the nervous system, and though she was a bright as the others she lagged behind. There is no question that a severe enteric infection is shared by the fœtus.

We must next consider the effect on the fœtus in utera. The severity of the attack plays a predominant rôle. Whether it will be severe or not we cannot tell in the beginning. Any prolonged high temperature is fatal to the fetus. When the time comes then abortion and premature labor will result. Then the mother's case is much complicated, in severe cases the fetus may suffer nervously.

The Widal reaction has been found in the new born: the fetus and the new-born child may be infected.

What are then the peculiarities of enteric fever as manifested in the child? The predominance of nervous manifestations and the lack of abdominal manifestations. It is sometimes mild and sometimes very severe with colitis.

A child of seven months was taken away from the mother who had enteric fever. The child had an obstinate constipation, slight fever and nervous restlessness. It was supposed to be fretting for need of its mother and the nurses did all they could to comfort it. Finally, in the fourth week, there developed a suppuration in the middle ear; and by reading backwards we find the child had enteric fever, undoubtedly infected from the mother; and the first sign was the suppuration of the middle ear. The disease is often anomalous in symptoms and difficult of diagnosis.

How do they get the infection? Through water, unless they are infected by the mother; also through milk and oysters, food made with milk and not heated to sterilization. It is a question whether they cannot get it in being bathed. There is an interesting case where the typhoid bacillus was found in the womb of a mother with puerperal septic infection. It is not stated whether it was caused by the septic puerperal infection or simply an accompaniment.

Recalling the ways in which the child suffers you should attempt to control the nervous system. There is fever and restlessness, apathy, abnormal hunger or loathing for food.

The use of cold is very important. First there is this excellent apparatus I have shown you to-day; then a second method is by putting over the body a layer of dry flannel, and then a thin ice bag going over this is filled with ice. The old abdominal pack has been neglected lately. It can be used when it is necessary to bring down the temperature rapidly within an hour. If the temperature is 105° or 106°, the child is drowsy and you fear a collapse, this may be used: You take a piece of ice and put on it four towels. They are wrung out from the ice one at a time and put over the abdomen. Sometimes as many as eight towels are used, keeping one on at a time. There should be a hot water bag at the feet. This demands more care than the other methods.

Cold may be applied by the use of the pack or wet sheet. The objection to this is that it often disturbs the child too much. A sheet is wrung out of water at a temperature of 65°-85°. The child is stripped and completely wrapped up in this sheet. Something hot should be at the feet. The child is left in the pack till the temperature falls or the sheet dries. The nurse may hold a wet sponge and let water drip over the abdomen.

Then we have the bath. In the case of the little girl I told you of, when the temperature did not come down under sponging I ordered tubbing. The child liked it and had it whenever she asked for it. The tubbing is an excellent method, and if managed gently the child will probably enjoy it.

When we come to sponging we must consider the number of patients in whom the temperature goes up immediately, no matter what you sponge them with. These patients should not be sponged. Immensely superior to this method is the coil on the abdomen and the bath. Remember you will find sponging as a means of reducing temperature very disappointing in many cases. In this child the temperature invariably went up. So I must warn you against sponging.

Then comes the question of feeding. With adults it is a distinct question—the time when we can give food freely. With the child we hope to stick to milk. We do this because we fear a sharp nephritis and want to give the kidneys as little burden as possible. We modify milk, we pancreatize milk, we add lime water, we give fresh buttermilk, and milk with barley-water, and we give albumin water. We must give plenty of fluid. It is better to use dilute milk with a child that won't drink water.

Next is the question of stimulation. Don't be frightened into stimulating too early. There is a rapid pulse; don't prescribe considerable doses of alcohol. Depend on general reduction of the temperature with external applications, and study the case. When you do give alcohol give it in the best possible form. Then if a sharp nephritis follow as an after-result of the disease, give a warm pack, digitalis, abundance of water, and feed cautiously with dilute milk.

If we are asked about the mortality rate, it is impossible to say. It is not high. If the disease is skilfully managed we can usually resist it easily. On the whole, the prognosis is favorable.

PROBLEMS IN TREATMENT—DIET IN DIABETES

BY DR. M. HEINEBERG.

THE study of the following case involves the practical consideration of the actual diet in diabetic cases. It is very easy to say cut off all starches or sugars, put the patient on a proteid diet, but in actual experience the question becomes more complicated and is worthy of careful discussion.

The following description is of a young woman of Irish birth, twenty years of age, having emigrated to this country ten years ago. By occupation she is a house servant, and unmarried; her father and mother are living and in good health, aged sixty and forty-five respectively. She has three brothers, all living, and seven sisters, of whom one died of what she calls "asthma," at fourteen, and three in infancy. So her family history is fairly good and is of no especial value in diagnosis or prognosis. Her own history is also fairly good, she having had whooping cough and measles. There is no history of any traumatism, nor of physical or mental shock. She has been the victim of no grave emotion or prolonged mental strain or worry, so commonly attributed as the cause of this malady by the French school of physicians. A remarkable case of this nature has been recently reported in which the emotions apparently produced diabetes promptly. A daughter living at home was thrown from a horse and died in forty-eight hours; her mother at that time in good health refused to be comforted, speedily developed a pronounced case of diabetes. In another case the wife of a clergyman who lost his charge as a result of phthisis developed speedily symptoms of diabetes, although previously in perfect health.

Certainly diabetes exhibits a condition affected by a profound disturbance of the nutritive processes. But in this case there is no recognized cause. Hebrews are alleged to be peculiarly prone to this disease; she is not a Jewess; apparently she has no pancreatic disease, no pancreatic colic, no biliary colic, no congestion or inflammation of gall, no history or shock or strain. She was in good health until last August, when she went on a visit to Ireland, where she developed a great thirst, feverishness, dryness of the throat, especially on rising, drinking five quarts of milk and water daily. She had to rise at night to urinate; she was hungry, developing that "wolf-hunger" which developed immediately after eating. She passed five to nine quarts a day of urine; she had pruritus, and her bowels were extremely constipated. She lost forty pounds in weight and strength, so that she was scarcely able to stand. Her menstrual periods disappeared. Her urine was pale yellow; specific gravity 1040° and contains three and two-tenths grains of sugar to the ounce. Her eye grounds are normal, but her reflexes are largely abolished.

This case was brought into the hospital and put on the regular ordinary "house diet" for two days, while her urine was examined in quantity and quality. Then she was put on a diet free from sugar or starch for ten days, and the urine carefully examined. Here comes up the problem as to the diet. Undoubtedly in the past few years there has been a reaction against the extremely strict diet in diabetes. Much can be done undoubtedly by the regulation of diet, but the feelings of indescribable torture and the effect on the general strength is so marked that the question of the necessity of a sugar-free urine at once is forced upon the mind of the attending physician. Patients often seem to do far better when small amounts of sugar are allowed. It is a question whether the assimilation or elimination of sugar, which is a source of energy, is the real problem after all. In these cases experience is better than induction or theory. In such cases comes in the use of the so-called "twice baked" starches, which is growing in practice. For example, the so-called "Zweibak" is an excellent thing to prescribe, or toast, which, as one can see, is twice baked. In boiling there is a temperature of 212° F., in baking one of 400° F. Hence baked potatoes are better than boiled for the diabetic. Again cases may do well by allowing the patient to resume the use of carbohydrates in the diet from time to time; undoubtedly the previous restriction of these substances still continues to decrease the reaction of sugar for some time after the resumption of a fuller diet.

Oranges and apricots contain so little sugar that it is of no importance; in fact, in most fruits much of the sugar is levulose, and this is assimilated by diabetics better than glucose. In short, no case of diabetes should be treated in a routine way, but studied carefully to produce the best results.

The prognosis is also a matter often of age. After fifty, curiously, enough the disease is not so serious as before that age. The gravity increases as the age decreases. In this case the youth of the patient makes the prognosis more serious. This case will be placed on antipyrin or opium, probably at first one-eighth of a grain of morphine three times daily by the mouth.

Philadelphia, January, 1901.

SUCCESSFUL TREATMENT OF INFLUENZAL COLDS.

BY CHAS. WILLIAMS, M.D., PHILADELPHIA.

EVERY winter the practitioners of the north temperate zone are called upon to treat more or less extensively cases of influenzal colds. By influenzal colds is meant those conditions in which there seems to be an excess of fever, rheumatic pains, cough, bronchial and nasal catarrh, and other constitutional disturbances, for the amount of local disease which can be found, even after the most diligent search. The most characteristic feature of these colds of the influenzal type is this particular point, that the patient seems to be a great deal sicker than he should be.

This constitutes an anxious feature for the attending physician, as he fears that he has overlooked some serious underlying conditions, and it is only by repeated and thorough investigations that he satisfies himself that he has discovered all physical symptoms which exist.

About ten years ago there seemed to be a reappearance of influenza on a colossal scale. This disease spread with lightning-like rapidity over the entire area of Europe and America. It was my opportunity to examine carefully into its prevalence in Philadelphia, a city having at that time about one million inhabitants. The condition of the people of this city can be accepted as about typical of the people of this country, for they are not herded together in great tenement houses, as in New York on the one hand, nor are they scattered over wide areas of country and exposed to extreme vagaries of climate.

As a result of my investigations on this subject I found that the deaths reported to the Board of Health as due directly to influenza were, none for 1889, 147 for 1890, and 304 for 1891. In addition, the deaths from allied conditions which might be, after all, really the local symptoms of influenza such as cardiac, pulmonic or intestinal, jumped up surprisingly. For example, the number of deaths from diseases of the heart jumped from 820 in 1889 to 1,200 in 1890, and 1,300 in 1891. The deaths from pneumonia increased from 1,500 in 1889 to 2,000 in 1890, and 2,100 in 1891. Curiously enough, the deaths from cholera infantum increased from 800 in 1889 to 1,200 in 1891, and in diphtheria from 375 in the former year to over 900 in the latter.

The returning epidemics of influenza in Philadelphia seemed to be weaker in force, due possibly to the decreased force of the infection, or, possibly, to the fact that in the earlier epidemics the patients, and even the physicians looked upon having the disease as a joke; later they became afraid of it, and attended to its treatment carefully, and in this way avoided the sequelæ, on which the mortality largely depends. All acute diseases of this period undoubtedly had more or less influenza engrafted on them.

The newspapers and the public treated the disease as though it were a new one, whereas, in reality it has existed probably from time immemorial. Dr. Benjamin Rush, the famous Philadelphia physician of the last century, has left such a striking description of these epidemics of influenza that it will bear quotation at the present time: "In the beginning of October (1790) a number of the members of the first Congress that had assembled in New York under the present national government, arrived in Philadelphia much indisposed with colds. They ascribed them to fatigue and night air, to which they had been exposed in traveling in the public stages; but from the number of persons who were affected, from the uniformity of their complaints, and from the rapidity with which it spread through our city it soon became evident that it was the disease so well known of late years by the name of influenza. The symptoms which ushered in the disease were generally a hoarseness, a sore throat, a sense of weariness, chills and a fever. After the disease was formed, it affected more or less the following parts of the body. Many complained of a great itching in the eyelids. In some, the eyelids were swelled. In others, a copious effusion of water took place from the eyes, and in a few there was a true ophthalmia. Many complained of great pains in one ear, and some of pains in both ears. Sneezing was a universal symptom. In some it occurred not less than fifty (50) times a day. In some, the nose discharged drops, and, in a few, streams of blood, to the amount in one case of twenty ounces. In many cases it was so obstructed as to render breathing through it difficult. In some cases there was a total defect of taste. In others there was a bad taste in the mouth, which frequently continued through the whole course of the disease. In some, there was a want of appetite. In others it was perfectly natural. Some complained of soreness in their mouths as if they had been inflamed from holding pepper in them. Some had swelled jaws, and many complained of toothache. I saw only one case in which the disease produced coma. Many were affected with pains in the breasts and sides. A difficulty of breathing attended in some, and a cough was universal. Sometimes this cough alternated with a pain in the head. In some of the cases, where the disease terminated fatally, the patients died of pneumonia notha. The stomach was sometimes affected by nausea and vomiting; but this was far from being a universal symptom; I met with four (4) cases in which the whole force of the disease fell upon the bowels, and went off in diarrhea; but in general the bowels were regular or costive. The limbs were affected with such acute pains as to be mistaken for rheumatism, or breakbone fever of 1780. The pains were most acute in the back and thighs, profuse sweats appeared in many in the beginning over the entire body, but without affording any relief. It was in some cases accompanied by erysipelas, and in four cases which came to my knowledge by miliary eruptions. The pulse was sometimes tense and quick but seldom full. In the great majority of those whom I visited it was quick, weak and soft. There was no appearance in the urine different from what is common in all fevers. The disease had evident remissions, and the fever seldom continued above three or four days, but the cough and some other troublesome symptoms sometimes continued two or three weeks. In a few the fever terminated in a tedious and dangerous typhus.

In several pregnant women it produced uterine hemorrhages and abortions.

Even previous and existing disease did not protect patients from it. It insinuated into sick chambers, and blended itself with every species of chronic complaint.

Many thousand persons who had the disease were not confined to their homes, but transacted their business as usual out of doors. A perpetual coughing was heard in every street of the city. Buying and selling were rendered tedious by the coughing of the farmer and the citizen who met in the market-place. It even rendered divine services scarcely intelligible in the churches. It proved fatal (with few exceptions) only to old people, and to persons who had previously been debilitated by consumptive complaints. It likewise carried off several hard drinkers. It terminated in asth-

ma in three persons who came under my notice, and in pulmonary consumption in many more. I met with an instance in a lady who was much relieved of a chronic complaint in her liver. I heard of another instance in a clergyman whose general health was much improved by a severe attack of the disease. The duration of this epidemic in our city was about six weeks. It spread from New York and Philadelphia in all directions, and in the course of a few months had pervaded every State in the Union. It was carried from the United States to several of the West Indies. It prevailed in the island of Grenada, in the month of November, 1889, and it was heard of in the course of the ensuing winter in the Spanish settlement in South America."

The first tendency of the profession in the treatment of these influenzal colds was to use in heavy doses all of the antipyretic derivations from coal tar. This was unfortunate, for many of them are depressants to the heart, and leave unfavorable effects upon the nervous system in this all-depressing disease. Undoubtedly, in the first place, in all influenzal colds, it is most important that the patient should be put to bed. There should be no parleying, or disputing on this point; it is absolutely essential. If these cases of influenzal cold are seen early, and are promptly put to bed and persistently confined there, with rigid restrictions, and if convalescence is very cautiously guarded the mortality should be very low. Complications are frequently traceable to some neglect of this simple rule; for relapses and complicated cases are nearly always serious, and present a considerable rate of mortality. In addition to this it is the habit of many physicians to produce free sweating by a combination such as pilocarpine and aconite aided by hot foot baths, followed the next day with moderate doses of quinine, and meeting other symptoms as they arise. Free cupping will frequently prevent the onset of a pneumonia when the case is of such a type. The use of some such sedative, expectorant mixture as the following is frequently useful in these pneumonic cases:

℞ Apomorphine hydroch.....gr. i
Potass. citrat.....℥i
Suc. limonis.....f℥i
Aquæ ..... q. s. ad. f ℥iii
S. dessertspoonful every 3 hours.

℞ Morph. sulph.....gr. ss.
Potas. brom. or Potas. citrat..aa ʒij
Syr. ipecac .....f ℥ij
Succus limonis..... ℥jss
Syr. simp..... q. s. ad. ℥iij.
S. dessertspoonful every 2 hours.

In cases which seem to take on the form of intestinal complications, the use of carbolic acid and bismuth has frequently been of great advantage. Asafœtida in the form of suppositories may be needed to tranquilize the nervousness which may exist, or, opium may be given by the rectum.

The use of stimulants is particularly indicated in these influenzal colds, and they are well borne. In cases when cardiac failure has been noted, strychnia, in doses of one-twentieth of a grain every eight hours, and the free use of digitalis, with the moderate exhibition of caffeine, have seemed very advantageous. It has been thought by some authorities that the condition of the heart found with, and following influenzal colds, was due to an affection of the inhibitory nerves of the heart angina pectoris, and anginose symptoms have been observed very frequently without the appearance of any organic disease. In these cases confinement to bed, careful diet, nervous sedatives, heart tonics and counter-irritation have generally a happy effect.

Undoubtedly, the citrate of caffeine has not been used as much for the weak heart in influenza as it should be, for it is, as well a stimulant to the respiratory center and also a stimulant to the kidneys as well. The treatment has certainly the merit of simplicity. It is greatly increased in value if it is given in connection with cactus grandiflora.

It has been my lot to have encountered in the past six or eight years innumerable cases of influenzal colds, in which the following is the usual description: There is first a sudden chill, or chilly feeling, followed by coryza, muscular pains, sore throat, fever and bronchitis. These cases seem to take on a rheumatoid form, accompanied with much mental and physical depression. It has been my experience that these cases have almost invariably had strong, bounding pulse beats and high temperatures; whisky, or quinine, which I found them taking, was particularly not indicated. I have tried in these cases many different combinations, but found one which became so successful that it has almost become a routine practice of prescribing it. This mode of treatment has certainly the merit of simplicity. It is simply the use of the salicylate of soda in five grain doses, every three hours, to the adult. It has been my experience that an attempt to treat all the various symptoms of an influenzal cold at the outset is unfortunate and unnecessary. I have found that in my cases gastric irritability is apt to exist to such an extent that the use of expectorants for the cough, of sedatives for the nervous system, or astringents for the sore throat only serve to upset the patient the more. The use of sodium salicylate, well diluted, has had in my hands the happy effect of generally relieving the patient's condition very promptly, so that scarcely any drug was needed for a few days, by which time generally, stimulants and cardiac tonics were indicated.

My experience with this drug came about in a curious way; in a large family I had six patients at one time in bed. Not wishing to give them all the same medicine, because it seemed like giving medicine wholesale, I put two of these patients on the salicylate of soda. These two patients, although as sick as the others, and not possessing any greater degree of vitality, made by far the quickest recovery. I repeated this in other families, and found that almost invariably the patients taking this drug recovered more quickly and exhibited less subsequent depression than those under other forms of treatment.

For the depression which follows an influenzal cold I found the following combination peculiarly happy:

Acid nitro-muriat. } aa ..... ℥ss
Acid nitro-muriat }

Sig. 5 to 15 drops 3 times daily at meal time.

The combinations of nitro-muriatic acid, with the tincture of nux vomica makes an effervescing mixture, and in consequence some druggists have refused to put up the prescription on the ground that it was an explosive mixture. In consequence of this it is well, therefore, to tell the patient in giving him the prescription, to inform the druggist that it is to stand 24 hours before being dispensed; or it is well to have a certain druggist keep the mixture in stock, although the mixture should not, on the other hand, be too old. These two drugs seem to make a new chemical combination, which acts particularly happily on the depression following influenzal colds, an effect which is usually noticed after two or three doses of the drug.

INTERESTING POINTS REGARDING THE MORE RECENT TREATMENT OF EPILEPSY.

BY DR. A. G. ELLIS, PHILADELPHIA.

EPILEPTICS are among the most dicffiult and unsatisfactory cases that physicians are called upon to treat. Almost the whole gamut in the scale of drugs has been run in the attempt to find a remedy that will prove of general efficacy or that will benefit a certain individual case where orthodox treatment has failed. The bromides are, of course, as yet the standard treatment, but in some cases their effect is discouragingly inefficient. Among the newer drugs chloral, acetanalid, and nitroglycerin have at times given gratifying results. Amyl nitrite seems to possess considerable power in warding off impending attacks which are preceded by an aura that gives sufficient warning for its use before unconsciousness supervenes. In the "status epilepticus" this drug has undoubted value. The purpose of this article is to review some investigations regarding the subject of epilepsy, with the citing of certain cases, and the conclusions of some of the most successful clinicians regarding its treatment.

A number of cases coming to autopsy have been reported. Ohlmacher gives an account of six cases of seven examined which showed a persistent and, in one case, an enlarged thymus gland. In several of the cases there were also enlarged bronchial and mesenteric glands, enlarged spleen, and hyperplastic intestinal lymph-follicles. From the suddenness of eplipetic attacks, laryngism stridulus, and death occurring in thymic asthma, Ohlmacher is inclined to attach much importance to the persistence of the thymus and remnants found in this large percentage of cases examined.

W. Ossipow (*Neurol. Centralbl.*, June 15, 1898) has made some studies concerning contractions occurring in the stomach, intestines, and bladder during epileptic attacks. His experiments were made upon dogs by means of an induction-current applied to the brain, or by the intravenous injection of absinthe essence. His conclusions are: 1. During the epileptic attack contractions of the stomach, intestines, and bladder appear, commonly after the beginning of the fit. 2. Contractions of the small and large intestines and of the bladder furnish one of the common phenomena of the epileptic attack, the duodenum presenting contractions in the beginning of the clonic period of the fit, the small intestine usually at the middle of the clonic period, the large intestine most commonly at the beginning of the clonic period, and the bladder generally at the beginning of the tonic period. 3. The contractions of the intestine and bladder are very strong, and have the character of a persistent spastic spasm. 4. The contractions above described are not the result purely of electric irritation of the cortex or of the stimulation from absinthe, but are an integral part of the major manifestations of epileptic fits. 5. Asphyxia in the epileptic attack is related in point of time to these contractions. 6. Evacuation of the bladder and rectum results from the contraction of the viscera as well as from the pressure of the abdominal wall. 7. There is an analogy between the epileptic spasms of the striated muscles and the contractions of the stomach. intestines, and bladder during the epileptic attack, in the sense that they both depend upon the motor control of the cortex.

Negro and Oliva (*Poli. del Policlin.*, Dec. 31, 1897) report the case of a girl affected by epilepsy, the spasm beginning in the right hand. An operation was done, exposing the motor cortex of the left side, but electric stimulation produced no movements in the upper extremity. Two days later the wound was opened without anesthesia and electricity again applied while the patient was fully conscious. Feeble excitation gave rise to a sense of formication in the region of the body corresponding to the location of the electrode. A stronger stimulus gave motion in addition to this. After the séance the patient presented a paresis of the entire right upper extremity, especially marked in the hand, and both subjective and objective disturbance of sensation, consisting in feelings of fulness and formication, anesthesia to touch, pain, and heat. The sensory disturbances disappeared at the end of three weeks; the motor disturbancnes persisted longer. The epilepsy did not recur, but the patient died five months later of typhoid fever.

Cases of reflex epilepsy are perhaps rarer than they are generally supposed to be. S. Weir W. Mitchell has said: "In no case seen by me have ablation of the ovaries and termination of menstruation cured epilepsy. That the climacteric puts an end to neuroses is an old delusion; in fact, the change of life, so-called, is quite as apt to make them worse as to better them. A large percentage of three cases are not made better by operation; but, on the contrary, are made much worse or else gain nothing on the side of the neurosis. In all my life I have met with but four reflex epilepsies; none was from uterine or ovarian or tubal disease." Osler says upon this point: "Great stress was laid upon reflex causes, such as dentition and worms, the irritation of a citatrix, some local affection, such as adherent prepuce, or a foreign body in the ear or the nose. In many of these cases the fits cease after the removal of the cause, so that there can be no question as to the association between the two. In others the attacks persist. Genuine cases of reflex epilepsy are, I believe, rare. A remarkable instance of it occurred at the Philadelphia Infirmary for Diseases of the Nervous System in the case of a man with a testis in the inguinal canal, pressure upon which would cause a typical fit. Removal of the organ was followed by cure."

Fichaux (*Thèse de Lille*, 1897) reports a number of cases of epilepsy in gastric attacks. In a case stated, a girl of twenty-two would suddenly cry out with severe pain in the epigastrium, become exceedingly pale, present a slight loss of consciousness lasting two or three seconds, during which she was entirely anesthetic, and upon recovering consciousness experience a feeling of fatigue and headache which lasted an hour or more. The attacks became much less frequent under bromides. In all cases collected by the author there was the same sudden onset. F. X. Dercum presented a case of so-called running epilepsy in his clinic at the Jefferson Hospital, March 24, 1899. The patient was a cigarmaker, twenty-six years of age. The attacks began when he was ten years of age and after lasting two or three years ceased for nine years, recurring after that time. The patient presented automatism to some extent, being partially unconscious but at the same time continuing steadily at his work, and doing it well, for half an hour after the attacks; these occurred four or five times a day. The treatment suggested was the bromides, antipyrin, and careful attention to diet. The prognosis in this case was considered to be very bad. In connection with another case of the same age but where the attacks had begun six years previous and were slowly increasing in frequency, the same clinician spoke more at length concerning the treatment of epileptics. It depends upon a detailed study of the viscera and digestive powers of each individual case. Not

much meat, but vegetables, fruit, and milk should largely make up the diet. The skin should be kept active by a sponge-bath daily and a full bath twice a week. As to the bromides he considers the bromide of ammonium the least depressing. Antipyrin associated with them increases the activity of the bromides, fifteen grains of the latter with antipyrin accomplishing as much as thirty to thirty-five grains when given alone. No injurious effects of the antipyrin have been seen. For the last few years he has also used trional and sulphonal and finds that the latter is especialy useful in treating cases of epilepsy that occur at night, five to twelve grains often preventing a nocturnal seizure. Another drug that gives great success sometimes is antifebrin, four to six grains after meals controlling where other remedies have failed. It probably prevents fermentation and acts as an antiseptic to the stomach. This effect on the stomach and bowels may influence the attacks of epilepsy through the blood, as when skatol, indol, and other like substances are plenty attacks are more frequent. Dercum also favors the late idea of establishing colonies for epileptics where they may have suitable outdoor work and regular living, the influence of a steady but light occupation having a beneficial effect upon the disease.

Cabitto (*Riv. Sper. di Fren.*, 1897) has observed that the sweat of epileptics has an increased toxicity previous to the fits analagous to that of the urine. He obtained the sweat for these experiments by means of the hot-air bath, and its use suggested to him its employment as a therapeutic agent. He has given the treatment a trial, and is convinced that it is a means of preventing and interrupting epileptic attacks. It should be employed whenever the prodromal symptoms manifest themselves; and its beneficial effects are not merely transitory, having some influence upon the organic system as well as upon the skin, an influence favoring elimination of the poisonous element. He would not, however, exclude other measures.

De Cesare (*Riforma Med.*, Aug. 13, 1897) records eight cases of epilepsy treated by Bechterew's method, with a mixture of potassium bromide, codein, and adonis vernalis given twice a day. In four cases there was complete suspension of the fits; in three other cases the fits were replaced by infrequent attacks of vertigo; and in the last case there were four attacks of vertigo and two convulsions. In every case the attacks were reduced in frequency and no bad results were observed. The pulse was fuller, digestion not impaired, temperature normal, diuresis increased, sleep uninterrupted and calm, and the mental condition unchanged.

H. A. Hare in the latest edition of his "Practical Therapeutics" has the following to say regarding the use of nitroglycerin and amyl nitrite in cases of epilepsy: "Nitroglycerin is to be employed in the treatment of *petit mal*, rather than *haut mal*, in the dose of one drop of a one-per-cent. solution, once, twice, or three times a day. Our knowledge of its effects, so far as its curative influences are concerned, is very slight, but it seems to benefit some cases. The use of the nitrite of amyl is not for the purpose of directly curing the disease, but of warding off impending attacks, the warning of which is given by an aura of slow progression. It increases the severity of *petit mal*, but in epileptics who have a prolonged aura we may use nitrite of amyl pearls, which the patient may break and then inhale the drug. The influence which the drug exerts upon the brain is secondary rather than primary, and is probably dependent on its action on the blood or circulation. Its influence on the spinal cord and nerves is much more marked and direct, and it is certainly a most marked spinal depressant. As its influence over unstriated muscular fibre is very great, it affects the vasomotor system very powerfully; and those who think that epilepsy is due to a vaso-motor spasm at the base of the brain point to the effects of this drug as a proof of their hypothesis. Such reasoning is not, however, necessarily correct. Nitrite of amyl puts aside an attack by a sudden shock to the nerve-centres, which diverts them, so to speak, from their intended discharge, very much as a ligature around the arm stops an aura. When we remember that the drug acts instantly and converts nearly all of the oxygenating blood of the body into a non-oxygen carrying fluid by reason of the methemoglobin produced, the sudden change in the cerebral nutrition and state is easily understood. In the treatment of the 'status epilepticus' nitrite of amyl is of great value in stopping the seizures, and may be used under these circumstances in heroic amounts, applied to the nostrils at intervals. The nitrite of ammonium or of sodium should be used internally to supplement the nitrite of amyl."

Of interest in this connection is a case shown by Hare in his clinic, Jan. 23, 1899. The patient was a Rough Rider who received a wound in the head while in Cuba. A large part of the frontal bone and a portion of the frontal lobe of the brain was shot away and the man was picked up as dead. However, he recovered after the clot and some spicules of bone were removed, though his pulse at one time was as low as thirty-seven. Convulsive seizures followed the healing of the wound and had been present for six weeks before the time of the clinic. They were preceded by an aura consisting of abnormal sensations in the left cheek with an increased flow of saliva and then twitching. Severe headache followed the attack. Dr. W. W. Keen pronounced surgical interference unjustifiable. The patient had been given five-minim nitrite of amyl pearls some days before with instructions to use one when an aura began. Two days before the clinic he had done this, using four about one-half hour apart before the attack was aborted, which was finally done. Have remarked at the time that nitrite of amyl was curative in so far as every attack prevented by it was thus kept from predisposing to another. He also ordered a fifty-per-cent, ichthyol ointment to be rubbed into the cicatrix and over the neighboring skull in the hopes of softening the citatrix and exudation and thus lessening the probable irritation present. Bromides were not ordered. The same author remarks that chloral hydrate has not as yet been used enough to fully determine its usefulness, but that " its physiological action indicates much more fully that it may be of value than does that of many other much more lauded remedies. Its use, combined with one of the bromides, is often accompanied by the most desirable results, and it should be tried at all times unless some cardiac complication forbids it. Of the more recent remedies, acetanilid certainly stands in the foremost ranks, and bids fair in some instances to rival the bromides. The drug will be found to exert its chief benefits in chronic epilepsy. At least, if a child was brought to the author with a beginning epilepsy he would use the bromides, but, if the disease was chronic, acetanilid."

J. C. Wilson finds that when the bromides alone fail a combination of ammonium-bromide, twenty to thirty grains, antipyrin, five to eight grains, and Fowler's solution, one to two minims, given two or three times a day will often give good results.

As to the operative treatment of epilepsy its propriety

in cases of the Jacksonian type is generally admitted. In other cases where the fit begins in a certain region each time, thus locating a certain center of the brain, such governing center may be removed.

Abortive Treatment of Pneumonia in Children.—Can a pneumonic process in the infant or child be arrested at its outset, aborted? From his own experience, Dr. H. Illoway (*Pediatrics*, Dec. 15, 1900) would answer the question affirmatively. To demonstrate that this can be done, he presents in his paper a history of seven cases in which the morbid process was cut short in two to three days and perfect recovery speedily ensued. That the medication described did not merely reduce the temperature and leave the pathological process going on in the body unaffected, just as would have been done by a dose or doses of antipyrine, phenacetine or kryofine, is clearly demonstrated, he thinks, by the histories and graphically shown by the temperature charts. The temperature was reduced permanently; there was no further rise, even not after the medicine was stopped. This could result only from an arrest of the inflammatory action. But more than this, the permanent depression of the temperature, the rapid change from a state of grave illness, as shown by all the symptoms and the general appearance of the patient, to a condition of well being, are incontestable proofs of the quick and complete jugulation of the main factors in this morbid process, congestion and inflammation.

As to the remedies employed, digitalis (infusion, or rather a decoction, as prepared by German pharmacists) was very effective in arresting the diseased process in a group of cases marked by a very rapid and decidedly tumultuous action of the heart. The author's opinion, however, based upon the greater number of cases in the remaining group, and the greater promptness of effect obtained, is that the combination of the *tincture of aconite root* with the *tincture of veratrum viride* (Norwood's) is the more powerful therapeutic measure and the one he would resort to preferably. He considers the repetition of the medicine at short intervals (for young infants, every hour and a half; for older children, every half hour), as of the utmost importance, "a vital factor in the achievement of success."

The prescription for a girl of 11 years was: Tinct. Veratr. Virid., Gtt. vi; Tinct. Acon. Rad., Gtt. ii; Aq. Destill., Syrup. Tolutan., aa ℥ss.

Of this medication, Dr. Illoway says, in conclusion, "It is *rapid in action, it is safe*, and, what is a matter of much moment in the treatment of children, *it is pleasant to take.*"

Potassium Bicarbonate in Colds and Influenza.—According to Stephen Harnsberger (*Phila. M. J.*), potassium bicarbonate, given early, will, in nearly every instance, abort a cold very effectually and almost at once. The remedy is well borne by both elderly and weak persons. Nor is it necessary for them to keep indoors as after the treatments commonly in use. Even when the case has advanced further and fever is present, this drug, with others indicated, will help greatly to re-establish the normal adjustments of the body. In those cases in which the tonsils are involved, or in which the catarrhal inflammation affects the other air passages, or the alimentary canal, potassium bicarbonate will demonstrate its benign influence.

In influenza potassium bicarbonate is a remedy of unusual value. Thirty grains of potassium bicarbonate should be given in a cup of milk every four hours during the day, and no other diet for 48 hours. This will, in most instances, quickly start the patient along to health. When milk is not well borne or readily taken, the remedy may be administered with a glass of cold water, only liquid diet being allowed for from 36 to 48 hours.

Nothing seems to assist the action of potassium bicarbonate so well as a cathartic, such as calomel, podophyllum, etc.

Value of Hot Baths in Disorders of the Menopause.—Gottschalk (*Sem. Méd.*, June 13, 1900) states that hot saline baths, at a temperature of about 40° C., lasting for about twenty minutes, and taken every evening at bedtime, constitute an excellent means of combating the night attacks of heat and sweating, from which so many women suffer at the time of a natural or post-operative menopause; the favorable effects are usually manifest at the end of the first week, and 26 to 28 baths are sufficient to cure the trouble altogether.

Cleaning the Teeth.—Fletcher (*Jour. A. M. A.*), in an article on interstitial gingivitis, supports the theory that the exciting cause of this disease is generally local, due to the failure to clean the teeth, the use of soft brushes and inefficient dentifrices and the omission of toothpicks. In cleaning the teeth the approximal surfaces, and especially the necks, should have special care, since these localities are usually first attacked. A dentifrice should not be used as an abrasive; the enamel requires no polishing. It should be coarse enough to remove foreign matter. The author therefore condemns the use of chalk, sea-shell or pumice stone and recommends a powdered cereal made from the hard parts of rice or Indian corn as the base of his dentifrice. The grit in this powder does the work most thoroughly, without the least injury or wear, as must be self-evident. Pulverized cereal has been objected to on the ground that it ferments in the mouth. This is wrong, however, for only hydrated starches ferment, and to hydrate it requires boiling, the action of caustic alkalies, or long continued action of bacteria.

With this pulverized cereal is incorporated 25 per cent. of soluble ingredients for sterilizing the mouth and neutralizing its acids. These ingredients are sodium borate, potassium chlorate, and potassium nitrate in some cases. The formula mostly used is as follows: R. pulverized cereal, 75 parts; sodium borate, 18 parts; potassium chlorate, 7 parts. Sweeten with saccharin and flavor to taste.

As a dentifrice this cereal powder does no possible injury, even by excessive use. It may be used freely and often enough to prevent any accumulations whatever on any surface accessible to a good brush. By the use of this powder the accumulations are not only kept away, but the surface of saw-toothed abrasions at the necks of the teeth become dark and lose their sensitiveness, showing that the abrasion has ceased.

—The application of a freshly opened living pigeon to the head is still a popular remedy in France in cases of meningitis, and in the central market of Paris there is a poultry dealer whose specialty it is to provide pigeons for this purpose. She asserts that this branch of commerce is flourishing, and she has recently organized a farm in the environs for breeding therapeutical poultry.

The Medical Times.

A MONTHLY JOURNAL

OF

Medicine, Surgery, and Collateral Sciences.

EDITORS:

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Communications should be addressed to the MEDICAL TIMES, 180 West Fifty-ninth Street, Central Park South.
Published on the first of each month.

NEW YORK, FEBRUARY, 1901.

Changes of standing advertisements and communications in regard to that department, should be addressed to BENJ. LILLARD, Advertising Manager, 108 Fulton St., New York.

"His heart was as great as the world, but there was no room in it to hold the memory of a wrong."—EMERSON.

BELLEVUE HOSPITAL CYCLONE.

THE oldest hospital in this city, whose history goes back to the colonial days when the population of what is now Greater New York lived in a few houses near the Battery, has been struck by a cyclone which has torn off the roof and exposed some of the inner workings of this Mother of Hospitals, venerable not only for age but for the great names associated with its history and the magnificent work accomplished within its walls for science and humanity. Since its removal to its present location in 1836, the hospital has been more or less under the control of a certain class or clique, into whose ranks it was difficult to obtain entrance.

The influence of the Kappa Lambda Society until quite recently was all-powerful in its councils. That secret society established in the first half of the nineteenth century was to a certain extent a conspiracy to grasp and retain for themselves, their sons and nephews all hospital privileges and all public emoluments of the profession.

In the ranks of this secret society were men of great executive ability, but of domineering wills and of a bigotry and intolerance which partook of the dark ages. Bound by an iron-bound code which fettered freedom of thought and all advance in their profession and all new ideas except those born in their own ranks and promulgated by themselves, their jealousy was specially directed against such men as Wright Post, David Hossack, Samuel S. Mitchell, Valentine Mott, John Wakefield Frances and others whose names we might mention of broad, liberal spirit, of advanced thought, of ripe culture, of generous impulses, pioneers in the ranks of scientific culture, who looked upon their profession from the standpoint of humanity and science rather than as a trade for the simple acquisition of power and money.

Until within the last few years the dogmatic spirit of the Kappa Lambda Society was all-powerful in the councils of Bellevue Hospital and found expression in the lecture rooms of the Medical College established in its grounds.

The lines of admission to the hospital staff were distinctly drawn and the doors open only to the few who could repeat the shibboleth of an iron-bound code.

The blow which abrogated that code and shattered the power of its association was due to that element of progress, of freedom of thought and scientific investigation which in our profession has been the crowning glory of the nineteenth century. It is a matter of congratulation that a broader spirit prevails in the councils of the hospital, with a greater benefit to its service and its medical teachings. In the present revelation of the abuses in the hospital we presume that no one attributes any intentional neglect or violation of duty to the Medical Board. But there has been neglect somewhere—a failure to detect and prevent a long series of abuses and inhuman cruelty on the part of attendants which has culminated in the arrest for murder of three of the nurses.

This could not have existed in any well-managed hospital and if there had been sufficient watchful care on the part of every member of the Medical Board would not have existed here.

The Commissioner of Charities deserves the thanks of every citizen of our city for taking hold of the matter with the energy, decision and thoroughness which will probe abuses to the bottom and not only fix the responsibility where it belongs but so reorganize the governing force of the institution as to prevent any recurrence of similar abuses in the future.

The condition of the hospital required the prompt and vigorous action it has received. An action dictated not by fear or favor, not by medical school or politics, but solely in the interest of the sick who while in the hospital are the wards of the city.

In Dr. George Taylor Stewart the commissioner found a man who had proved his ability in years of faithful and eminently successful hospital service to meet every emergency which the reorganization would require. The action of the commissioner, we are confident, will receive the hearty endorsement not only of the Medical Board but of the great majority of the profession and the public, and the public mind will no more be shocked with such scandals as have recently filled it with horror.

In this connection we understand that the Charter Revision Commission of Greater New York will propose that Bellevue and its subsidiary hospitals be taken from the Department of Public Charities and vested in a Board of Trustees appointed by the Mayor. We are confident

when the commission looks at the proposed change in all its bearings, especially in the light of the present reorganization, they will withdraw their recommendation and leave it a part of our system of public charities in which, linked with the other hospitals of the department under one control and with one responsible head, more systematic and efficient work could be performed with a greater freedom from political and social influence than in any other way.

There is, however, one change which could be made with great advantage and to which we call special attention.

What is known as Bellevue Hospital was the first hospital organized in colonial times, partly as a dispensary, with six beds. At a later day it was removed further up-town and its accommodations increased from time to time as needed.

In 1836 it was located at Bellevue (Fairview) at the foot of 26th street, receiving its name from the location. Three buildings were erected near the old Alms House and the plot surrounded by a stone wall.

Since that time pavilions and laboratories have been erected as needed, but the original structure is now out of date, lacking modern improvements, its walls more or less saturated with poison and in every way unsuited to the entirely changed requirements of hospital work.

The improvements recently made in the Metropolitan Hospital on Blackwell's Island, during the past year, under the direction of the Commissioner of Charities, make it, so far as the buildings are concerned, one of the most complete and perfect hospitals in the city.

Equally satisfactory results could be obtained at Bellevue by either tearing down the old buildings and erecting structures specially adapted for hospital work, or making such changes as would bring the institution in full touch with the times. We sincerely hope the Legislature will not act hastily in a matter of such importance, but give it that consideration which the best interest of the city demands.

SUPPRESSION OF VICE.

IN the crusade against vice which is now attracting so much attention, owing to recent disclosures on the east side of the city, where a large percentage of the population is of the lower or at least of the poorer class and most of them of the lowest grades of foreign emigration, we trust that what seems to us a great if not the principal cause will not be overlooked. We must take into consideration the life they have lived in their foreign homes, the poverty, generation after generation, the struggle for a bare subsistence, the absence of education and the almost entire obliteration of any high moral ideas, and adapt our methods of relief to meet their present conditions.

The State should as far as possible guard the health of every individual and especially of the women. A most important and in fact the initial step to secure health and good citizenship would naturally be to correct the abuses of the home and especially the kitchen. Food of the right kind, nutritious and properly prepared, is recognized in the old proverb verified by every day's observation that "a hungry man is an angry man," and might be added often a reckless and dissolute man. Finding his meals ill cooked at home, badly served in ill-ventilated rooms and filthy surroundings, the working man and often the woman also seek in unhealthy and often debasing companionship, in surroundings which appeal to the animal element of their nature for a certain kind of enjoyment in the surrender of all that is pure and good to the lower instincts of their being.

This can only be remedied by reforming the home, especially by introducing order, system, neatness and intelligent judgment into the kitchen. In homes where the rooms are clean even if poorly furnished, and the meals, however scanty, well cooked, the greatest inducement to drink and bad companionship is removed. One cooking class is worth a dozen temperance societies. It goes to the very root of the evil, correcting vicious tendencies by proving how much more real enjoyment there is in the change of life offered.

If we would break down and clear out the strongholds of those forms of vice which are debauching the young and pauperizing their fathers and mothers, we must introduce the cooking school as the most potent and active missionary for good which could be employed.

Cooking should form an important part of instruction not only in every elementary school for girls but also in all their high schools and colleges, where the study of physics, chemistry and bacteriology could be directly applied to the processes of cooking and the hygiene of the home.

According to leading medical authorities, improper diet and bad cooking, notwithstanding all the discoveries in chemistry and bacteriology during the glorious nineteenth century, and their application to medicine and surgery, still cause the greater part of all preventable disease. The Board of Education are beginning to thoroughly appreciate the force of this most important branch of domestic science in the health and moral tone of the community.

We learn from the supervisor of cooking in the public schools of Manhattan and Bronx that cooking is a part of the regular course of study in thirty-eight female departments in the grammar schools of Manhattan and Bronx and that ten thousand girls are now receiving instruction in this department of domestic service.

This answers the question, Why is the work of the physician less called for now than twenty years ago.

It is because of the greater intelligence of the young mothers, a little while ago pupils in our grammar schools, are now heads of families, whose instruction in domestic science was one of the most important and useful branches of their school and college education.

Every one of them had learned that the Pasteurization of milk and the sterilization of bottles will lower by one-half infant mortality and will know how to do it without the aid of the physician. They will know that asepsis is of the utmost importance in the culinary department of the kitchen and in the nursery. They have seen under the microscope the living organisms which cause milk to sour and which breed poison in stale meat and vegetables. Of course it would not be practicable to teach the poorer class of tenement children the scientific details of cooking, but enough practical information could be given to every one of the preparation and nutrition of food and the necessity of cleanly surroundings.

The prejudices of different nationalities resulting from ignorance will melt away under well-directed instruction, and the school girl by introducing the ideas obtained in the cooking school into her own home will in time work a reformation which nothing else could accomplish. The cleanly habits she has acquired and the tasteful food she has learned to prepare she will naturally follow up in her own home, and little by little the standard of the home is raised to correspond with that of the school.

With these new ideas and partially new life will come the desire for better surroundings of which they can take advantage when offered, but which they could not appreciate in their former filthy and animal life.

The church to a certain extent is co-operating with the Board of Education in this line of work, so full of promise in the near future.

We make a special mention among other organizations of the Pro-Cathedral in Stanton street and the Church of All Souls' in Fourth avenue, both of which, aided by the wealth, energy and wise judgment of individual members, are doing splendid work in the eastern part of our city, commencing at the very foundation and prosecuting their labors with a knowledge derived from a close and accurate study of individual and social conditions. Legislation at Albany is less needed in the suppression of vice and the building up of a moral standard unequalled in any city in the world than the work of the Board of Education in the line marked out, and such active co-operation by the public as is shown by the religious organizations to which we have referred.

PROPAGATION OF YELLOW-FEVER GERMS.

A COMMISSION under Dr. Reed of the United States Service has just reported on experiments made at Quenados as to the propagation of the yellow fever germs by the mosquito.

Dr. Reed says the experiments show, beyond a doubt, that there is no contagion from an infected person or from infected clothing, but that the mosquitoes alone are responsible for the spread of the disease. In the course of the commission's investigations six non-immune persons were infected direct by the bite of mosquitoes which had previously bitten yellow fever patients, and five of these developed yellow fever.

The last experiment made proved conclusively, Dr. Reed contends, the theory of propagation by mosquitoes. A special building was constructed of disinfected material, and one of the rooms was divided into two sections by a wire mosquito screen. In one section were placed disinfected bedding and clothing, and in the other bedding and clothing from the yellow fever hospital which had not been disinfected. Two non-immunes occupied the two sections. In the former were put several infected mosquitoes. The patient remained in this room only long enough to be bitten; and in four days a pronounced case of yellow fever developed. The patient is now convalescent. The other subject slept in the infected bedding for many nights, and has not contracted the fever. Both patients have been sleeping for twenty nights in garments worn by yellow fever victims and in bedding from the yellow fever hospital. Dr. Reed says they are growing fat, and that in no instance in the course of the commission's investigations has a case of yellow fever developed from exposure to infected bedding or clothing. This may be true and yet, while it is clearly demonstrated that the poison of yellow fever is communicated by mosquitoes, it is not by any means proved that this is the only way that the yellow fever germs are propagated.

This is equally true of malarial germs. Notwithstanding the recent experiments in the Roman Campagna show that in that location where the body is protected from mosquitoes so that it is not exposed to the bite, the person entirely escapes the attack of fever, the germs not being communicated through the air or in any other way; yet every physician in active practice has seen cases of true malarial fever in which the plasmodea was fully developed, where no mosquitoes existed. It is, however, an interesting and valuable scientific fact which will undoubtedly reach results in the way of prevention that the mosquito is a great factor in the propagation of the germs of yellow and malarial fever.

An interesting fact has been communicated to our government by a Central American consul, that the Ricinus Communis or castor oil plant, growing abundantly in tropical and sub-tropical climates, and as an ornamental plant in temperate regions, is fatal to the mosquito, a few of the plants about the house being sufficient to keep them at a distance.

ELIXIR OF LIFE.

WITHIN the past few months the public mind has been somewhat excited from the statement that the health of the venerable ex-Mayor Abram S. Hewitt has been improved from the intra-venous injection in 1897 by Dr. Robin of Paris, of glycero-phosphate of sodium, to such an extent that it has apparently given him a new lease of life. With

this statement of fact came the idea that the glycero-phosphate of sodium was in reality an Elixir of Life, acting not only as a tonic but a rejuvenator, adding much to the length of life.

The remedy has recently been tried upon two infirm old men in the Alms House, one over eighty and the other over seventy years of age. In both cases the effects were very apparent, there being marked improvement in muscular power and vital force.

Dr. Robin first recommended the glycero-phosphate treatment to the French Academy of Medicine in 1894.

The Brown-Séquard treatment of injection, which our readers will remember was then much employed and created quite an excitement, and was called Elixir of Life, had become known throughout Europe and America.

The reviving effects which in some cases Dr. Brown-Séquard's Elixir produced were ultimately traced to the glycero-phosprate, a preparation such as any druggist can prepare. It is a solution of the salt mixed with glycerine and can be used in the form of an injection, the presence of the glycerine making its action more uniform.

It has been well known for years that injections of sodium salts have a stimulating effect especially upon the heart.

The use of hot saline intra-venous solution at the time of operation to prevent shock and consequent death where there has been much bleeding and also where the patient was almost in a state of collapse from other causes, was first introduced in this city by Dr. Dawbarn after a series of experiments on dogs in Columbia Physiological Laboratory, during the winter of 1890-1—the temperature employed being about 120.

Salt-water had previously been introduced in the vein to simply replace blood lost or vitiated, but the modern idea of introducing it at the time of operation to prevent shock and tone up a weak heart dates from the experiments of Dr. Dawbarn in 1890-1.

The stimulating effects of the sodium salts and their tonic action upon the heart probably suggested to Dr. Brown-Séquard, who was undoubtedly the ablest physiologist of the day, the idea of his Elixir of Life, of which the principal ingredient was the glycero-phosphate of sodium, in connection with animal extracts made from different organs of the body.

The glycero-phosphate of sodium used by Dr. Robin with such excellent results upon Mr. Hewett, he considers simply as a stimulant and tonic more efficient in its action on the aged and in certain forms of general prostration, and anemia where the organs are not too much impaired and retained sufficient vitality to be aroused into active force, than any other agent yet known to therapeutics.

No elixir yet discovered will replace wornout tissues or remove the organic changes which time has produced in vital organs, but any agent which will smooth the rough pathway of the downhill of life and brighten its closing hours and exit, will be held in grateful esteem.

From what has already been discovered it is evident that a further study of the physiological action of sodium salts which exist in solution un-organized in all living things, vegetable or animal, will probably be rewarded with rich results.

A SCIENTIFIC BASIS FOR MEDICINE.

HOW to place medicine on a strictly scientific basis and so do away with Rational Empiricism and thereby render the physician capable to cope successfully with disease is the object of a series of papers by Dr. E. C. Hebbard, the first of which appears in this issue.

To do this intelligibly it is first necessary to philosophize somewhat on the question of how life associates itself with organized matter and thereby to demonstrate that the body is nothing but so much matter organized to its highest limit; controlled by the potentialities, heat, light, electricity and magnetism; mechanical force being evidenced by the power of the work done in the combination of elements, thus controlling the chemical integrity of the matter of the body when the normal elements are furnished for support and repair. Chemical interchange depends upon its matter of supply. If the proper pabulum be wanting the tissues suffer. Aid nature with what she demands in promoting organization, and the citadel is fortified to resist disease as well as to overcome attack. There is no question but what medical reform is needed before we can consider our therapeutics on a strictly scientific base, and it is hoped that this effort will create an interest in this direction. There is much to learn and much to unlearn ere the profession will be master of disease, especially the many so-called incurable diseases of to-day. There is little satisfactory treatment even for tuberculosis, pneumonia, typhoid, yellow fever, scarlet fever, leprosy, diphtheria, Bright's disease, diabetes, growths malignant and non-malignant, etc., etc. Nor can there be until life and matter are understood as separate entities. The physician has to do only with matter and the physical forces governing the same. In what way can digitalis, strychnia, strophanthus or nitro-glycerine administer to the nutrition of heart disease? By stimulation only, like the whip to the tired horse: if the food be not forthcoming the whip soon fails to aid. In these drugs which are, like all matter, dependent on the physical forces pent up in them to give their distinguishing characteristics, we find only those influences which are non-compatible to the requirements of body repair, so can produce nothing but disturbing stimulation. Formulate in harmony with nature's requirements, using those remedies rich in arrangement of those forces compatible to the demand and favorable results will obtain in every case as positively as water quenches thirst.

Mathematical precision in formulation to molecular requirements is the path that must be traveled ere the glorious science of medicine reaches perfection in the control of disease.

There is no question but that this will be done, but much must be unlearned before great advancement can be made. Physiological and pathological chemistry are doing immense work in this direction at this moment, but unfortunately the entity, of life, is so misunderstood that these great investigators would have us believe that not only does death end all, but that to regain health some mysterious force holding life and matter in subserviency, must be controlled; that life may spring from matter, but it surely is dependent on it, and probably cannot exist as a distinct entity if separated. This idea is taught by scientists, even Spencer, Huxley, Tindal, Darwin and others. Why? Because in tracing matter down to its ultimate—to the atom—the ether, they have not been able to find out where life comes in, how it associates itself with matter, or in what way it originated. In this first paper is given some ideas on this subject—reasoning from a basis of three ethers—using them as a superstructure to build upon. After years of careful thought, experimentation and exhaustive research the author is convinced of the correctness of his conclusions and is willing to launch them forth for unprejudiced professional criticism, believing that the profession will be as it always has been, ready to encourage anything that provides aid to humanity. Prejudice has been too often the foe of advancement—it is never tolerated by the pure scientist who seeks only for truth. We must learn the right way to question nature, to obtain rational methods of application.

THE Cornell University is erecting a building for its medical department on the Cornell campus at a cost of $125,000.

The building is next to the College of Law and will nearly complete the quadrangle and in architecture will be the finest on the campus. In connection with the Medical Department of the University in this city forming with it a unit, the facility offered for scientific and practical study in all the details of our profession will not be excelled by any institution in the world.

DR. SQUIBB AND THE PROFESSION.

DR. EDWARD R. SQUIBB, the veteran manufacturer of drugs and medicines, recently deceased, has left an estate of at least a million and a half dollars, a sum that could never have been realized in the legitimate practice of medicine. There can be no doubt that Squibb's preparations have been found reliable, but always held at an unwarranted price. and this may account for the value of the estate which survives. Dr. Squibb was a leading old-codist, although not a practitioner of medicine, and some even claimed that he used the profession to promote the "sale of his wares." It is a great question whether a man outside the profession, interested solely in the commercial side of medicine, should be allowed in the council of the active practitioners. His interests are widely different, and especially if he has never been a practitioner he cannot possibly appreciate the position of the man who is.

We do not hesitate to say that Dr. Squibb, in our opinion, has been a disturbing factor to the interests of progressive, practical, ethics in the profession, and we sincerely hope that no one will rise up to take his place in this respect. The profession in this State is able to take care of its ethics without the interference of commercial men.

THE NEWSPAPER IN MEDICINE.

IF the daily newspaper is to discuss medical subjects, it should have a physician in charge of this department to save the harm which will otherwise happen. Some ridiculous statements have recently appeared in leading papers on various matters, that could only be understood by a medical man, and should have been edited by such an one. These articles are not only misleading and ludicrous, but in some instances dangerous. A medical man might be made of great service to the daily newspaper upon a variety of subjects that would naturally fall to his province, and perhaps be the saving of some disgrace, particularly if he were made a censor of all matters medical.

The daily newspaper has been recently imposed upon to advertise a proprietary medicine of foreign manufacture. In doing so it brought in the name of a prominent and esteemed citizen of this city, greatly to his annoyance. The articles were probably paid for at so much a line by the local agent to boom his remedy. Such conduct is the misleading of many and the humbug of a few.

The profession must lend its strong hand to help suppress the unethical methods of the manipulators of drugs in their efforts to reach the public, as well as to guard it from being misled by the newspapers, and both of these points can be accomplished by combined effort.

A QUESTION OF MORALS.

THE Grout bill which has already passed the House by a large vote, is still before the Senate.

From our view point it is a simple question of morals!

Shall oleomargarine be sold as butter? Any honest man will say, of course not! How is this to be prevented? The Grout bill says by a revenue tax of ten cents per pound on all oleomargarine which is made in semblance of butter, and by reducing the tax on oleomargarine in its natural color from two cents to one-fourth cent per pound, so that the consumer who really

wants a substitute for butter can have it at a lower price that at present, minus only the color that deceives others who do not want it. The profession is interested in the subject from the standpoint of pure food, and in opposition to substitution.

NEW YORK ACADEMY OF MEDICINE LIBRARY.

IT is not known by many of our profession, in and out of the city, that this library, the largest medical library in the United States except that of the Army and Navy in Washington, is freely open to any physician for consultation, whether a member of the academy or not.

Its reading rooms are large and well supplied with journals and the attendants intelligent and familiar with the contents of the library.

On the shelves are 89,000 volumes, including 36,105 duplicates. The additions to the library are about 3,500 volumes a year. There are on file 991 journals in many languages.

There were registered in the reading room during the past year 11,520 readers.

ONE of the most important of all our State hospitals was incorporated by the last legislature under the name of the New York State Hospital for the Care of Crippled and Deformed Children, and is now in working order in Tarrytown, New York. The hospital accommodates thirty patients and was established for the care and treatment of indigent children who may have resided in the State of New York for a period not less than one year, who are crippled and deformed, or who are suffering from a disease from which they are likely to be deformed. Patients will be received from three to fifteen years of age in the order of their reception. The Surgeon-in-Chief is Dr. Newton M. Shafer, 28 East 38th street, New York, to whom applications should be made.

IN reply to a recent question in Parliament it was stated that there had been 15,023 cases of typhoid fever in South Africa, and that of this number 3,642 had proved fatal.

DR. ERASTUS E. MARCY.

ONE of the oldest physicians in the city died at his residence 396 Fifth Avenue, Thursday, December 27th. Dr. Marcy when in active practice, from which he retired several years ago on account of infirmities of age, was one of the most popular physicians in the city, with a lucrative practice probably exceeded by none. The firm of Marcy and Leon and later Marcy and White were extensively known at home and abroad. Dr. Marcy graduated at the Jefferson Medical College in 1838. During all his professional life except the first ten years he has resided in this city, where he rapidly gained a reputation not only as a skilled physician but as a graceful and scholarly writer upon medicine and theology.

In connection with Dr. John C. Peters and Dr. Preston he, early in his professional life, established the *North American Journal of Homeopathy*, of which for many years he was the leading editor.

In connection with Dr. Hunt he wrote a work upon "The Theory and Practice of Medicine." A popular work from his pen, "Homeopathy and Allopathy," being a polemic review of the respective merits of the rival systems and was widely read at the time.

Brought up as a Presbyterian, Dr. Marcy became a Roman Catholic, and in 1867 with all the zeal of a new convert wrote "Christianity and Its Conflicts from the Standpoint of a Roman Catholic," and a later day, "Life's Duties," besides several other smaller works.

With a scientifically trained mind and a graceful diction he exerted a marked influence on the medical thought of the day.

IT is astonishing at how cheap a rate food well cooked and nutritious can be obtained in this city.

At certain places an excellent dinner can be had for twenty-five cents, and even a nickel will furnish a very good appetizing meal of fresh, healthy food.

In Chicago the penny lunch-rooms are on a more extensive scale. Quite a large bill of fare is furnished, including coffee with sugar and milk, meat stew, doughnuts, Wienerwurst, rolls, soup, mush and milk, hash, each article for one cent, an entire meal costing not more than three cents, and all this leaving a slight margin of profit.

A person can keep from starving a long time on a nickel a day.

DR. SAMUEL FLOERSHEIM, whose practical article on the "Use of the Suprarenal Capsule in Diseases of the Heart," published in the *New York Medical Journal* October 6th, created marked attention, writes us that he is preparing another article on the subject and will be glad to receive from the profession observations on the condition of the heart and pulse and the effect upon them of the suprarenal powders ten minutes after three grains have been swallowed without water.

DR. ROBERT F. WEIR has been elected President, Dr. John H. Huddleston Recording Secretary, and Dr. Louis F. Bishop Corresponding Secretary of the New York Academy of Medicine.

BIBLIOGRAPHICAL.

THERAPEUTICS; ITS PRINCIPLES AND PRACTICE. By HORATIO C. WOOD, M.D., LL.D. Eleventh edition remodelled and in a greater part rewritten by Horatio C. Wood and Horatio C. Wood, Jr., M.D. J. B. Lippincott Co., 1900.

Dr. Wood is one of the first, if not the first, in the so-called regular school to base a carefully considered treatise on therapeutics upon a foundation of physiological study first marked out by Hahnemann, a plan now adopted by most of the advanced teachers of therapeutics.

It will be very evident to every logical mind that the old empirical therapeutics while it may be suggestive and point the way to a physiological study of drug action is crude, unreliable and unscientific.

The physiological action of a drug must be studied, not in disease, but on the healthy human or animal organism, or, in other words, we must get at what influence a drug exerts on the healthy organism before we can use it rationally in sickness.

This simple law in the study of drugs leads naturally to their scientific use in disease, the amount given being governed by the condition of the patient and the judgment of the physician, the physiological action of the drug pointing the way to its therapeutic indication.

The dual action of drugs one following the other as a logical sequence is undoubtedly so self-evident that among thoughtful minds it forms the basis of a scientific therapeutics and is the keynote to the study of drugs and their curative action.

The work of Dr. Wood carried out with the utmost care and painstaking research and investigation is along strictly scientific lines, and is so rich in facts and practical suggestion that it will prove a mine of untold wealth to every earnest student of therapeutics.

ESSENTIALS OF PRACTICAL BACTERIOLOGY. An elementary Laboratory book for Students and Practitioners. By H. B. Curtiss, B.S., M.D. Longmans, Green & Co., 1900.

This is an admirable work for the clinical bacteriologist. The descriptions are so clear that the intelligent student will be able to follow them out correctly in the laboratory with but little assistance from the teacher.

DISEASES OF THE NERVOUS SYSTEM. By H. Oppenheim, M.D., of the University of Berlin. Authorized translation by Edward Mayer, A.M., M.D., Pittsburg, Pa. First American from the second revised and enlarged edition, with 293 illustrations. J. B. Lippincott & Co.

Dr. Mayer has placed the English-speaking public under lasting obligation for his scholarly translation of Prof. Oppenheim's thoroughly practical and scientific work on the Diseases of the Nervous System. The author in addition to his own clinical experiences has culled from the vast amount of literature on the subject only that which appears to have a sure basis and is founded on facts. Particular attention has been given to symtomatology, diagnosis, prognosis, and therapeutics.

The normal anatomy and physiology of the nervous system have been considered in a concise yet lucid manner and their exposition has been enriched with appropriate plates. The part devoted to therapeutics is especially commended, for the critical analysis of everything which has been recommended by the leaders of thought in that department and the possibilities of remedies tried by himself.

The illustrations are artistic and accurate and contribute much to aid in the understanding of the diseases and the formation.

SEXUAL DEBILITY IN MAN. By Frederic R. Sturgis, M.D., formerly Clinical Professor of Venereal Diseases, Medical Department, University of the City of New York; ex-Visiting Surgeon to the City Hospital, Blackwell's Island; author of "A Manual of Venereal Diseases"; one of the Authors of "A System of Legal Medicine," etc., etc. New York: E. B. Treat & Co.; p. 432. Octavo. $3.00.

The author of this work has, for many years, devoted his attention exclusively to venereal and genito-urinary diseases, and his principal reason for writing this book is to introduce sundry opinions which he holds upon sexual weaknesses in men, which, although they may be at variance with ideas generally received in this country, he is convinced from experience are correct.

Thus in the chapter on Masturbation he has combated the old and time-honored belief that indulgence in this habit is the necessary prelude to both physical and mental degeneration, and, while not glossing over the dangers which may, under certain conditions, result from the habit, he has attempted to point out the folly of the hysterical denunciations which have been heaped upon it by pseudo-philanthropists and ignorant medical men. The question of castration in the case of masturbating lunatics has been brought up afresh for discussion, and the author has frankly stated his reasons for believing that, under certain circumstances, such a procedure would not only be justifiable, but proper. He has also separated Spermatorrhœa from pollutions, aiming to show that the two are absolutely distinct and separate diseases: that spermatorrhœa is not the finale of pollutions, but is a disease *sui generis*, the symptoms, course, and treatment of which are entirely different from the latter. He has also striven to correct the idea that the man afflicted with spermatorrhœa is foredoomed to impotence and sexual uselessness.

In the chapter on Prostatorrhœa he has attempted to lay down the natural history and symptoms of this variety of disease, and has protested against the loose and unscientific method of regarding it as practically the same as prostatitis, with which latter disease, in his opinion, it has absolutely nothing in common. The book is worthy of a wide reading.

A CLINICAL TREATISE ON FRACTURES. By William Barton Hopkins, M.D., Surgeon to the Pennsylvania Hospital and to the Orthopedic Hospital and Infirmary for Nervous Diseases. Philadelphia: J. B. Lippincott Co., 1900. p. 268. Octavo.

This book is the perfected clinical lectures of the author, with skiagraphic illustrations. The text is most concisely and clearly stated, is free from statistics and

abandoned methods, and is a work for practical use, based upon the experience of a large hospital. The treatment advised is eminently simple and effective, the experience of a master hand. The book should be possessed by all those having to do with this class of cases. The physical part of the book is superb.

THE CARE OF THE CONSUMPTIVE. A consideration of the scientific use of natural therapeutic agencies in the prevention and cure of consumption; together with a chapter on Colorado as a resort for invalids. By Charles Fox Gardiner, M.D., Non-Resident Fellow of the New York Academy of Medicine, Member of the American Climatological Association. New York and London: G. P. Putnam's Sons, 1900. p. 182. 12mo.

The author has given in his little book, in a clear and practical manner, the principal rules for the guidance of the consumptive in the selection of fresh air, sun light, food, rest, and exercise, to the end that these natural agencies may be applied intelligently and to suitable advantage.

The book will be found a great help to the physician as well as the patient, and is not intended to supplant the former. It may be prescribed to advantage in such cases.

AMERICAN TEXT-BOOK OF PHYSIOLOGY. Edited by William H. Howell, Ph.D., M.D., Professor of Physiology in Johns Hopkins University. Vol. II., royal octavo, of nearly 600 pages, fully illustrated. Cloth $3.00 net; sheep or half-morocco, $3.75 net. Philadelphia and London: W. B. Saunders & Co., 1900.

What we said of Vol. I. in our December issue may with propriety be repeated here, as the second volume of this superb work fully bears out all we stated as to its predecessor. The status of this undertaking seems to be beyond criticism, and the views expressed command our highest confidence, because of the source.

The chapter upon the Central Nervous System has been entirely rewritten in the light of the latest investigation with the intention of rendering this important branch of the subject suitable to the needs of students and practitioners. A section on Physical Chemistry forms a valuable addition, since these views are taking a large part in current discussion in physiological and medical literature.

The first edition of this work was pronounced to be the best exposition of the present knowledge of the science of Physiology in the English language, and in its revised form the book will doubtless remain the leading work on Physiology for students and practitioners. The subjects comprised in this volume are: Muscle and Nerves; Central Nervous System; Special Senses; Special Muscular Mechanisms, and Reproduction.

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(1) THE PRESENT POSITION OF THE TREATMENT OF SIMPLE FRACTURES OF THE LIMBS. An address delivered in opening a discussion at the meeting of the British Medical Association held at Ipswich, August, 1900, to which is appended a summary of the opinions and practice of about 300 surgeons.

(2) ON THE USE OF MASSAGE AND EARLY PASSIVE MOVEMENTS IN RECENT FRACTURES AND OTHER COMMON SURGICAL INJURIES, AND THE TREATMENT OF INTERNAL DERANGEMENTS OF THE KNEE-JOINT.

THREE CLINICAL LECTURES DELIVERED AT ST. GEORGE'S HOSPITAL, with 12 illustrations. By William H. Bennett, F.R.C.S., Senior Surgeon to St. George's Hospital, Member of the Court of Examiners, Royal College of Surgeons of England, Etc.

REPRINTS FROM THE BRITISH MEDICAL JOURNAL of Oct. 7, 1900, and after revision from the *Lancet* respectively. pp. 41 and 97. Longmans, Green & Co., London and New York.

These little books are worthy the attention of any one who practices surgery.

THE TREATMENT OF FRACTURES. By W. L. Estes, A.M., M.D., Director and Physician and Surgeon-in-Chief of St. Luke's Hospital, South Bethlehem, Pa. With numerous original illustrations. New York: International Journal of Surgery Co. 1900. (Price, $2.00.)

Among the surgical conditions which the general practitioner meets in his daily routine, fractures occupy a prominent place. This is especially true of the practitioner in the smaller cities and in the country, who cannot depend upon the specialist to help him out of the difficulty, but is compelled to rely upon his own therapeutic resources. A thorough knowledge of the treatment of fractures is one of the prerequisites to success in general practice. Dr. Estes has set himself the task of imparting such instruction as will enable the physician to approach these cases with confidence and to treat them in a practical and scientific manner. Owing to his extensive connection with railroad and mining industries, in which these cases are so frequently encountered, Dr. Estes is able to speak authoritatively on the subject, and to recommend such methods as he has found of actual value in his experience. The many excellent illustrations, most of which are original, serve to further elucidate the text, and add to the value of the book. What has been said above applies particularly to the general practitioner, but the surgeon will also find much in this work that is original and worthy of careful perusal.

SUGGESTIVE THERAPEUTICS AND HYPNOTISM. Being a course of forty-one lessons on the uses and abuses of suggestion. By Herbert A. Parkyn, M.D., C.M. Third edition. Chicago, Ill. Suggestion Publishing Company, 1900.

Dr. Parkyn is the founder of the Chicago School of Psychology and editor of the *Monthly Magazine of Suggestion.*

In his lessons the simple truths of Psycho-Therapy are clearly set forth with instructions how to apply them.

The author says, "For years we have worked hard, hand in hand with the Nancy school of teachings, but experience and observation have forced us to believe that the field of Psycho-Therapeutics is only beginning to open up.

"We believe the theories we are advocating at the present are more logical and practical than those generally employed."

There is no doubt that Psycho-Therapy intelligently employed may be of great service in the hands of the thoughtful physician.

The author does not claim it is by any means a com-

plete system of therapeutics, but that it plays an important part in the science and art of healing, and if rightly understood and properly utilized would occupy a still higher position in the estimation of the profession and the public. The work will be of interest to every physician.

EXPERIMENTAL RESEARCH INTO THE SURGERY OF THE RESPIRATORY SYSTEM. An essay awarded the Nicholas Senn prize. By George W. Crile, M.D., Ph.D. Second edition. J. B. Lippincott Co., 1900.

The experiments were all conducted with the utmost care and the results recorded in detail with scientific accuracy. The animals upon which the experiments were made were placed under full surgical anesthesia and killed before their recovery.

The experiments cover a large list of subjects and will be of great value to the surgeon in the treatment of respiratory troubles.

PNAMAS AND THE SIERRAS. A Doctor's Wander Days. Illustrated from the author's original photographs. By G. Frank Lydston, M.D.

How many more worlds does this brilliant author intend to conquer? Standing at the head of his profession, fatigued with its exacting and arduous duties, he seeks rest in a trip to California which he finds so enjoyable that he wishes his friends to participate in his pleasure, and the result is one of the most readable books in incident, wit and scenic description we have seen. One has only to read the book to see that the author is as much at home in general literature as in the scientific details of his profession.

A DIGEST OF EXTERNAL THERAPEUTICS. With numerous formulæ arranged for reference. By Egbert Guernsey Rankin, A. M., M.D. Second edition, revised and enlarged. Boericke & Runyon Co.

We expressed our commendation of the great value of this work, of the research and excellent judgment displayed in its preparation, on the appearance of the first edition. The additional matter which has been added will commend it still more to the profession. The author lays no claim to originality, but the facts which he has gathered with so much care from the wide field of literature are presented in such a clear and scholarly manner as to be readily understood and easily remembered.

THE LIVING AGE was first published in Boston by Mr. Littell, in 1844, and has now reached the fifty-eighth year of an unusually prosperous and valuable life. Probably no American magazine has contributed so largely to the education, the literary, refined, artistic, and scientific culture of the American people as this weekly magazine, which still retains in its ripe old age all its early strength of editorial supervision, always in full touch with the most advanced thought and culture of the age. To those of moderate means the magazine is invaluable, and to the more wealthy also presenting in a small space a choice selection of the world's best literature.

—Dr. Fisher has retired from the editorial direction of the *Medical Century* and Dr. Dewey of the University of Michigan has taken his place.

CORRESPONDENCE.

"PALMAM QUI MERUIT FERAT."

To the Editor of the MEDICAL TIMES:

In a daily newspaper, not long ago, we encountered a list of names that had been submitted to the judges for consideration as to their fitness to be perpetuated in the proposed "Hall of Fame" of the New York University. Among them was that of Dr. John Collins Warren, late of Boston, put forward, obviously, on the ground of his participation in the discovery of surgical anesthesia. It is difficult to believe that anything so absurd and unjust as this thrusting of posthumous greatness upon an honest gentleman who never dreamed of aspiring to it, can now be seriously attempted. Yet we notice that at the recent Centenary of the Royal College of Surgeons in London, an American representative of no less prominence than Professor W. W. Keen had the "cheek" to express himself as follows respecting "the gift, better than Magian gold, and frankincense, and myrrh," which, on October 16, 1846, "America had laid on the altar of science." "Before that date," continued Dr. Keen, "the poor victims of the knife were bound hand and foot. . . . But at Warren's touch the thongs fell off; he spoke, and the stormy billows were stilled; the blessed sleep of ether hushed every cry of pain. Then first was modern surgery made possible, and what was made possible by our Warren was made safe and successful by your Lister. It is, therefore, with a peculiar fitness that to-day you have conferred your Honorary Fellowship upon the distinguished grandson of him who first demonstrated the blessings of ether to the suffering world." In the whole address, not one reference to Morton! Mark, too, in what cunning terms the eulogy is couched. Of course, in a certain sense, the above quoted statements are correct; as a bald and literal matter of fact, it was Warren's knife that carried out the demonstration spoken of. But just as that knife was merely the tool of him who held it, even so must Warren himself be looked upon by all who are familiar with the oft-related facts, as but an instrument, a half-reluctant and incredulous subordinate of the chief actor in that memorable scene. His professional assistance was a necessity on the occasion, and for rendering it he deserves a place in our remembrance—but not to the exclusion of his principal, upon whose head alone the shame of failure would have fallen, as, a few weeks previously, in the same amphitheater, it had crushed the unfortunate wells. As to Morton having forfeited his claim to immortality by taking out a patent for "Letheon," it should in fairness be remembered that then he had not yet entered the medical fraternity, and hence was not strictly bound by its peculiar regulations. After his admission, Warren himself maintained no better standing. Anyhow, can a scrupulous regard for ethical considerations be held to justify us in seeking to foist on posterity a bare-faced falsehood? We refuse to believe it.

F.

BELLADONNA AND THE CILIARY MUSCLES.

MANY use belladonna for a few weeks after glasses have been fitted. This is to make the eyes "accept" the glasses. Unless the eye is befogged by drugs, it will not put up with a glass which interferes much with its accustomed activity and natural function, but if the focusing muscle is kept partially paralyzed for a few weeks the eye will tolerate a badly fitting glass.

By instilling one or two drops daily of such a weak solution of atropine as 1 to 25,000, or even 1 to 100,000, the eyes, in a short time, will "accept," or get used to, worst fitting glasses, glasses that otherwise could not be tolerated. Quarter grain pellets of extract of belladonna taken internally also have this effect. Headache and other asthenopic symptoms are usually relieved by belladonna when wrong glasses or lack of glasses are the cause of trouble, but belladonna is not recommendable in such cases except for diagnostic or temporary use.

This conquering of the eye is practised as scientific and at first thought seems all right. Many young people, after a course of continuous belladonna treatment, are slaves to glasses. They can no longer read fine print with the naked eyes, and are warned not to leave their spectacles off, even for an hour or so, for fear the focusing muscles will reassert themselves and the whole thing have to be gone through again. This treatment often subdues and substitutes and may weaken and atrophy the focusing muscles and thus age the eyes many years. It may ruin the fine and delicate adjustments of the focusing mechanism and may make the eye somewhat like an optical instrument or like the eye in old age. True, such an eye is easily managed, but consider what has been lost.

An illustration is given: Practically all children are farsighted, and so are most grown people. A child, twelve or fifteen years of age, not yet needing glasses, is farsighted, say, about 3 D.* Focusing muscles of such eyes are doubly powerful and do nearly as much work, even in distant vision, as focusing muscles in perfect eyes do in reading. Such children are often made to "accept" magnifiers of 2 or 3 D. With these there would be little or no use of the child's powerful focusing muscles for distant vision, and the muscles' accustomed work in reading would be reduced nearly one-half. Such glasses could never be tolerated without belladonna.

Some instruct patients to stand both pain and dizziness and become used to glasses without drugs. This may do serious harm in nearsightedness and may age the eyes in farsightedness and astigmatism, but not so much as the belladonna treatment.

Improper glasses, and even perfectly fitting ones if worn all the time may be injurious. If glasses are needed before middle age the eyes are imperfect. Focusing muscles in imperfect eyes are stronger and used to more work than focusing muscles in perfect eyes. Focusing muscles of imperfect eyes with perfectly fitting glasses, if worn all the time, do as little work as focusing muscles of perfect eyes. In farsightedness and astigmatism the worst fault of glasses is in magnifying too much. Here the focusing muscles may have no work and may wither as in old age. Nearly any eyes can be made to "accept" magnifiers. In astigmatism, when such things as fine print are magnified, definition and clearness of shape are not missed.

In age the focusing muscle has not lost most of its power over the now rigid crystalline lens and does not make the vigorous protest against badly fitting glasses as in youth. After middle age the eyes too easily tolerate wrong glasses. If one eye is blind or if the sight of one eye is suppressed, the aged will wear nearly any magnifiers.

Glasses help overworked or inadequate focusing muscles to overcome imperfections, but if worn all the time they may help too much. Unless the eyeballs are badly misshapen, glasses are rarely needed on the street, because proper glasses, worn while reading and about the house or office, rest the focusing muscles so perfectly that spectacles are not needed outdoors, for, if focusing muscles are once perfectly rested, distant vision will not tire them for hours.

A bed rests a tired back. Some tired backs have to stay in bed all the time, but most should get up when perfectly rested. Some need glasses an hour or so a day for a few weeks, and then may lay them aside for years, but most with troublesome imperfections should wear glasses several hours a day and leave them off when not reading and when the muscles are rested A few with deformed eyeballs need spectacles every hour in the day, all the time, for a lifetime.

Good glasses can be put on and taken off any time and belladonna is not needed in getting used to them. If the proper action of the focusing muscle is hindered and its accustomed function interfered with, it will perish just the same as any other muscle and the confirmed spectacle habit may then be a necessity.

NORBURNE B. JENKINER, M.D.
Chicago, Ill., January, 1901.

* Most with such eyes use no glasses until about the thirty-fifth year and then only for reading.

HOSPITAL REPORTS.

APPENDICITIS—GALL-STONE—HARE-LIP SCAR—SURGICAL CLINIC.*

BY ROBERT T. MORRIS, M.D.,

Professor of Surgery, Post-Graduate Hospital, New York City.

Appendicitis.—This first case that I operate upon today, gentlemen, is one of peculiar interest. The patient is a physician, thirty-four years of age. He enjoyed ordinary good health until June last, when there developed pain in the right side of the abdomen. It is an unusual thing for the pain to be localized in the right side of the abdomen at the onset in these cases; it may be that, being a physician, he read his symptoms better than others do. The pain lasted about ten days, but the patient did not go to bed. The second attack came on in August, lasting fifteen days. Then the pain was constant, with spasm of the abdominal muscles and slight elevation of temperature. The third attack occurred on November 17th. It was more severe. Since the last attack he has lost flesh and has not been free from pain at any time. He had nausea, spasm of the abdominal muscles, no vomiting, has had no general peritonitis and no evidences that there has been extensive infection at any time. At the time of examination the temperature was 99°; he had a slight cold and it was thought that that might account for it. The colon bacillus temperature is usually a temperature of 99 or 100, or 101. A case may go on to a fatal termination with all the disturbances that accompany appendicitis with a temperature ranging one degree on either side of 100; this is the colon bacillus temperature. I have made temperature records many times and have found that when staphylococci, the streptococci, or mixed infection are present at the onset we are apt to have a high temperature, 103, 104, or even 105; the colon bacillus commonly controls the field after the first day, and the temperature drops when the colon bacillus displaces

* Held January 10, 1900, at the Post Graduate Hospital.

other bacteria; this accounts for the temperature not being far from one degree on either side of 100 in most appendicitis cases. It is a good rule in these cases to make an examination of the pus in the laboratory. Now, in this case, although the patient has had tenderness, and pain in the right inguinal region ever since the last attack, the temperature of 99 I ascribe to his taking cold, because the colon bacilli will not persist for so long a time without causing more or less disturbance, *i.e.*, they are either at rest or developing furiously. This means that, in the interval between the attacks, the patient's temperatures are usually quite normal.

On palpation I do not find the appendix to be much enlarged or hypertrophied; it really feels like a normal appendix, but somewhat smaller than usual. If the patient were not a physician, and did not give such a good history of his case, I would hesitate about operating until I had seen him in an acute attack, or until I could palpate a distinctly pathological appendix. This patient came to me day before yesterday; the appendix was then hard and somewhat smaller than normal, but without active symptoms; I usually advise the patients to allow me to be certain of the diagnosis before advising operation.

The next question comes up as to what conservative treatment is? We all know what the real conservative treatment is to-day; it is not a matter for discussion. It seems to me, at the present time, we are to be guided by a knowledge of the pathology of the disease, rather than by any personal experience. The time for that is passed. There are now few subjects better understood than appendicitis. We know the causation thoroughly, the pathological changes thoroughly, the symptomatology thoroughly, and there is hardly any part of the entire subject not within our knowledge. I have operated upon many patients who were still being reported as cured by medical treatment. We know to-day that more than 10 per cent. of all appendicitis patients have hard concretions in the appendix; we know to-day that more than 80 per cent. of the patients who have had one attack had mucous inclusions more or less complete. This percentage does not include soft fecal masses, which predispose to appendicitis; Nature makes an effort to throw off this fecal matter and, I am sure, that a good many cases are caused by soft fecal masses in the appendix. There follows a spasm of the muscularis of the bowel, which gives rise to a catarrhal inflammation with consecutive infection of the appendix. When the guarding epithelium of the mucosa is damaged infection follows. In the report of the cases treated without operation we note two points not usually brought out by writers. Most all of the patients who come to me after having had one, two or three attacks give a history of ill health dating from the time of their first attack; and yet they have kept about their work, appeared to be quite well, were often congratulated upon escaping operation, etc. Experience goes to show that many persons who report themselves in good health have had constipation, or gas formation, and do not feel vigorous or ambitious. They do not enjoy the enterprise they formerly did, and yet they say that they are pretty well. This condition of inferior health is due to several causes. First, it is often due to infection from a mucous inclusion; secondly, it is often due to adhesions of the bowel inhibiting peristalsis; thirdly, it is sometimes due to reflex disturbances of Auerbach's plexus, and Meisner's plexus, fermentation taking the place of digestion.

There is not much difficulty in palpating the appendix; if one will give attention to it he will soon become expert. I have no doubt that many of the class present can palpate the ovaries and tubes without difficulty; any man who can palpate the oviducts can palpate the appendix as well. To do it one must train the finger ends. This matter of palpating the appendix should be acquired by any one who intends to express an opinion on the subject of appendicitis.

It seems to me that patients are always ready for an appendix operation. I count upon that fact in consultation. Usually it is the cook, or the mother-in-law, who is opposed to the operation, not the patient. I have been called to unravel this knot many times, and instead of arguing for several hours at $10 per hour, I say, "Let us leave it to the patient." Patient says "operate." Of course I am referring only to acute cases, cases in which there is an acute progressive inflammation. In the interval, cases I have frequently had occasion to ask for delay, in those cases, for instance, where the patients have had the management of large business affairs and where they may ask for a delay of from one, two or three months; in these cases I often say, "Wait; we are ready to operate, but let me know at once if symptoms of acute recurrence make themselves known." But I cannot now recall a case in which there was acute infection and the patient did not say "operate." It is a common thing for patients to postpone operation because of the idea that they might save time by it. One of my patients, who has been but nine days in bed since operation, had previously been eight weeks in bed trying to save time. An idea that many patients have is that they lose time if operated upon. If operated upon they usually spend but nine or ten days in bed unless there be abscess complication at the time of operation.

Recurrences after abscesses have emptied into the bowel is a common experience. No one knows where the abscess is going to empty, whether into the bladder or into the iliac vein, or elsewhere, and yet the patient may have recurrence of the attack. This we know from the pathology of the disease. I had one case in the sister of a physician, who evacuated pus from the mouth after perforation of the lung and from the vagina at the same time; nearly one gallon of pus was thus evacuated. She recovered and was congratulated, perhaps, upon escaping an operation; yet she had a subsequent attack, was operated upon and the appendix was removed, and it was a pretty good appendix. A mucous inclusion was present.

Patients suffer less under proper surgical treatment than under medical treatment. The replies of patients, ten in number, who had been operated upon, were published in the third edition of my book on this subject; they all made the statement that they had suffered less under the surgical treatment than under any form of medical treatment. Several of these ten were abscess cases; several of them had had many attacks, and had been subjected to different kinds of treatment and all gave testimony which I published. After all, it seems to me that we are to be guided by our knowledge of the pathology of the disease rather than by personal observation.

We know that if we operate in proper manner upon all cases so soon as the diagnosis is made the death-rate would be under one per cent., *i.e., if* the diagnosis is made before the case goes on to abscess formation. There is no medical treatment that gives that kind of results. If the case has gone on to the formation of abscess the death-rate, under good treatment, in the hands of good men, according to proven statistics, has been reduced not far from 5 per cent.; there is no medical treatment in abscess cases that will give as low a death-rate as that; usually it is from 20 to 40 per cent. The cases that

have gone on to the stage of general septic, or suppurative peritonitis and treated surgically, have not been well classified for statistics.

In this case I shall make a small incision, one and a half inches in length; this is the incision which gives better room for working with your fingers. A few years ago patients objected to the long incisions, so I gradually reduced the length until I found that one and a half inches was the space required, except in abscess cases. I insisted upon this being taken as a standard and directed physicians' attention to it at that time. It has had the effect of influencing operators to make shorter incisions and patients do not now bear the ugly scars they formerly did.

In the early stages we never know when it will be necessary to operate, and that is the chief argument against waiting. None of us can tell just what the case is going to develop into, whether it will go on to abscess formation, maybe perforation; this makes the death-rate greater than it would be if operation had been done at once. If we wait for complications we then work upon complicated cases.

Now, first, I will palpate the appendix. You first must palpate the ascending colon for a landmark, following it to the cæcum, and then to the small intestines. If you cannot at once find the appendix carry the fingers beneath the cæcum and see if you cannot fix the appendix against the psoas or iliacus muscle, first steadying the bowel by pressing on the opposite side of the abdomen. The appendix is smaller than normal in this case, and most of it is replaced by connective tissue, and there is but little mucosa left. Now let up operation and verify the diagnosis.

Commencing at McBurney's point I make an incision one and a half inches in length; I cut through skin and fat with the scissors, coming down upon the aponeurosis of the external oblique, which I split in the line of traction. I now split the internal oblique in its line of traction, then the transversalis, which brings us down to the peritoneum. A catgut ligature is passed through the transversalis fascia and peritoneum, which later will aid us in co-apting and making accurate apposition and leaving things as we found them. This logitudinal white band marks the colon; if I pull in the wrong direction I will soon find fatty tabs, which lead to the omentum. Pulling in the right direction we come to the base cæcum. The appendix I find rolled in mesentery, with a few adhesions. The appendix is small and hard at the points where there is connective tissue replacement of mucosa. I shall now ligate the appendix. The peritoneum I shall scarify; it is difficult nowadays to set up a peritonitis without struggling for it. Now I am introducing a puckering string suture, which goes through peritoneum and muscularis, but not through the mucosa. I next ligate the stump which guards against infection from the lumen side. The stump is inverted with a pair of forceps, and the puckering string tied. Aristol is placed on the site of the stump, and now I shall try to replace the structures of the abdominal wall in the same condition as I found them. The peritoneum is closed carefully to guard against pro-peritoneal hernia; the muscles are sutured, and the skin is brought together by a subcutaneous suture. Do not attempt to suture the fat; atmospheric pressure will keep the fat in apposition. Time required for the chief operative work in appendicitis and gall-stone cases will average about twenty minutes to each case, five exceeds the time spent in closing the abdominal incision.

Examination of the appendix just removed shows a great deal of new connective tissue, in most places replacing the mucosa, and having no lumen. This is a case undergoing involution process.

Cholecystotomy.—About one year ago this patient suffered from pain in the right hypochondrium, in the region of the gall-bladder. Eight months ago the pain increased at that point, with occasional spasm and firm contraction of the abdominal muscles of the right side, and the patient became jaundiced. These spasmodic attacks were accompanied by nausea. Gall-stones have not, apparently, been passed at any time. The patient says that he has lost flesh for several months, especially recently. The question of the diagnosis between the presence of gall-stones, malignant disease of the gall-bladder, and malignant disease of the pancreas came up. I could not palpate the gall-bladder. I had no chance to examine for fatty stools to see if the pancreas was involved. He has had pain radiating to the right shoulder blade, which is quite characteristic of gall-stones and, also, belongs to cancer of the liver.

I find the liver is small, but has not the feel of a cirrhotic liver. It is difficult to find the gall-bladder. Here it is adherent posteriorly, and quite full of gall-stones. The gall-bladder is now brought to the surface and fastened there. The liver here is probably congenitally small, with an abnormally deep fissure. If bile escapes in small quantities into the abdomen no harm may result unless infectious material is carried with it. I will now open the gall-bladder; the bile is escaping in large quantities, externally. With a long forceps I remove a large number of stones, probably a hundred or more; they consist apparently of nuclei of cholesterin covered by a dark layer of bile verdure. Aristol is placed thickly around the wound; it sheds liquid and so protects surrounding parts from infiltration of bile. The gall-bladder is now flushed out with saline solution, a twisted piece of gauze is introduced into the cavity and the wound is closed with the exception of a drainage opening.

Hare-Lip Scar.—The next case is a young man who had a hare-lip repaired years ago, and very well, but leaving a scar to the left of the median lip line, so his mustache parts irregularly and shows the scar. I now put the scar in the middle line of the lip by making a slit on the right side of the lip corresponding to the scar on the left, and cutting out the intervening segment, then suturing the wound again. This is the operation devised by Dr. A. M. Phelps, of this city. This is an instance where it takes two wrongs to make one right.

Submersion in the Treatment of Wounds.—The use of the hot bath in poisoned wounds, to which attention has recently been called by Fraser, is noticed by Hodges (*West. Med. Review, J. A. M. A.*). His extensive experience with the procedure, he claims, warrants the following practical conclusions: (1) Continuous submersion even for long periods—two or three months if necessary—is altogether hamless. (2) That it may be easily secured anywhere by anybody possessing an ordinary degree of ingenuity. (3) It will almost instantly limit infectious gangrene and control the resulting septicemia and spanemia. (4) It will quickly relieve the pain and discomfort of phlegmonous inflammation or cellulitis. (5) It will speedily reduce temperature and pulse and overcome the consequent depression of the patient's vital forces. (6) The temperature of the bath is immaterial, except that when below the temperature of the room it more promptly reduces fever and many bacteria will not develop at this temperature, while such as do will develop less vigorously than at a slightly higher temperature.

PROBLEMS IN PRACTICAL DIAGNOSIS.

THE STUDY OF THREE CASES SHOWING IN COMMON ALBUMIN AND CASTS IN THE URINE, BUT SUFFERING FROM DIFFERENT DISEASES.

THE following cases are especially interesting to the practising physician as illustrating practical difficulties:

Case I. is a male, an Italian, 11 years old; he had been sick three days prior to admission to the hospital on December 2, 1900; he has pain in the back and neck and headache. On examination his urine is found to be smoky, acid in reaction, Sp. gr. 1012, it contains no sugar, but shows a distinct albumen ring. Microscopical examination reveals the presence of dark, granular casts and a few red and white blood corpuscles.

These casts indicate the presence of an acute nephritis, whether or not antedated by a chronic nephritis it has not been demonstrable. The temperature varies between 101° and 104° F., with morning remissions and evening exacerbations. The tongue is not tremulous, nor does it show the imprint of the teeth; is slightly coated, particularly posteriorly, where it is brownish yellow; reddish in front, and is not particularly dry. Inspection of chest and abdomen is negative. There is no rash of any kind. There is no tympany nor increased area of hepatic dullness, although a slightly enlarged area of splenic dullness is apparent on percussion.

The cardiac rhythm is slightly modified, shows the irritable, galloping sounds which usually accompany febrile processes, but no murmurs are present.

Auscultation of the lungs at the base posteriorly reveals occasioned crackling râles, otherwise there is no indication of a lesion. A symptom of much importance is the pain in the neck occasioned on lifting the patient from the recumbent to the sitting posture, and on examination the rigidity of the neck muscles is found to be of such a degree that the shoulders are lifted with the head.

This rigidity and pain has increased so in the last 24 hours, and in connection with the other symptoms has caused a change of the first diagnosis of probable typhoid fever of the cerebro-spinal type, to one of simple meningitis in contradistinction to meningitis of tubercular or cerebro-spinal origin.

Aids in the diagnosis are the facts that simple meningitis is at present the most common type of meningitis, and that immigrants, especially Italians and Jews, are more often afflicted than Americans; it is also important to notice that congestion of the kidney suggests more strongly meningitis than typhoid fever; however, casts and albumen in the urine are not indications of the greatest lesion, but simply incidents in the course of the disease. The treatment thus far has been in accordance with the idea of the case being one of the cerebro-spinal type of typhoid.

On admission an initial dose of calomel was administered; five drops of dilute hydrochloric acid every three hours; sponging every three hours if temperature was 102° F.; ℥i of whisky every three hours.

The second case is also an Italian, a man 20 years of age. Previous to admission, on December 2, the patient had been sick eight days with symptoms of headache and pain in the back. Examination of his urine showed Sp. gr. 1028, slightly cloudy, no sugar, but a layer of albumen. Microscopically, hyaline, granular and epithelial casts were found.

The fever has fluctuated between 101° and 103° F., except on one occasion when it rose as high as 104.6°, but it was promptly reduced by cold sponging.

Inspection of the abdomen shows the presence of about 12 to 15 small, rose-colored spots, scattered, which disappear on pressure, to return when pressure is withdrawn.

The tongue is not tremulous, has a brownish coat and is extremely dry and cracked. The patient gives no history of diarrhea previous to entering hospital nor has it developed since. The stools, two or three a day, are liquid and yellowish, separate into two layers on standing, and are characteristic of typhoid fever even in the absence of diarrhea.

Percussion of abdomen reveals tympany, a slightly increased area of splenic dullness, but no increase of hepatic dullness. There is no evidence of heart disease. The diagnosis is plainly that of typhoid fever, and the presence of the albumen and casts is of no significance.

The treatment is along the regular line—five drops dilute hydrochloric acid every three hours, sponge every three hours if fever is 102°, and liquid diet.

The third case in this series is again an Italian, male, aged 21, a bootblack by occupation, and a moderate drinker.

About five years ago he had some sorethroat which disappeared and was followed by a period of good health lasting until about two months ago, when he noticed a swelling of his feet, this swelling extending up his body to his face; he had headache, diarrhea, dyspnea, this chain of symptoms lasting to about three weeks ago, when they abated to recur a day or so before admission to the hospital, on November 26.

At present the patient shows great puffiness of the face, especially the eyelids; has had excessive ascites, and paracentesis has been performed three times, last time on November 29. The last sap hole remains open and through it is a constant exuding of serum. "This is rather an advantage than a disadvantage, and in the experience of the clinician has never given ill results. Notwithstanding the constant draining there is still present quite a quantity of fluid in the abdominal cavity as is shown by the marked fluctuation which can be elicited on percussion.

Linea albicantia present all over abdomen. There is marked pretibial edema and also of the feet, and with this dropsy of the trunk.

The voice is not good, due either to edema of the larynx or rest of air passages, or both. The advisability of performing tracheotomy provided the edema of larynx increased, was under consideration, it is manifest, however, that the operation is useless in marked edema of other part of air passages than that of the larynx.

Auscultation of the base of the lungs posteriorly reveals harsh breath sounds and some crackling râles, symptoms of a mild bronchitis. The heart is fairly good, the first sound heard at apex is slightly murmurish. The urine has the Sp. gr. of 1011, acid reaction, no sugar, but a distinct layer of albumen. Microscopically, casts, hyaline, granular and epithelial have been demonstrable on repeated examinations.

The diagnosis is that of an acute nephritis. The treatment previous to coming under observation was most varied and extensive. The patient had been getting Pilocarpine in ⅛ gr. doses, dry cups over back, and a mixture of Potass. Cit. gr. xx, Tr. Digitalis ♏, infusion Buchu ℥i three times a day; this doing no apparent good was followed by $^1/_{40}$ gr. doses of strychnine sulph. and 10 ♏ doses of Spirit. Ætheris Nit.,

also to no avail. This was all abandoned, and instead was given Potass. Citrat. gr. v, Tr. Opii ♏ v every two hours for two days. (The writer holds that in his opinion opium or morphine has not deleterious effect in acute nephritis, notwithstanding the teachings of the profession at large.)

After two days the patient will be given Tr. Digitalis 15 min. every four hours for three days and two doses over, this quantity being enough to produce the desired diuretic effect if the drug will avail anything at all.

Changes in the Vessels and Vascular Coats of the Eye Which Are of Diagnostic and Prognostic Value in General Disease.—G. E. de Schweinitz (*Maryland Med. Jour.*, June, 1900) summarizes an address on this subject as follows:

(1) Flitting conjunctivo-episcleral congestions may be the only symptom of masked gout.

(2) Such congestions may be the prodromes of later gouty manifestations in the eye or elsewhere in the body, but also and most importantly may be the forerunners, associates or alternates of retinal-vessel changes, which, in their turn, are the indications of general arterio-sclerosis of serious prognostic import.

(3) The same conclusion applies to recurring subjunctival and recurring subcutaneous palpebral hemorrhages, which seem, however, to be related especially to the chronic form of nephritis, exactly as is the classical retinitis.

(4) Inflammation, hemorrhage and edema, with exudation, are not necessarily the ophthalmoscopic signs of general arterial disease or of its special localization in certain organs, for example, the kidney. It may be manifested with perhaps equal frequency by alterations in the walls of the retinal arteries and changes in the course and caliber of the veins, together with signs of mechanical pressure where veins and arteries cross.

(5) These retinal-vessel changes may be present when ordinary physical examination does not reveal the signs of endarterial changes in the surface vessels of the body generally.

Abortive Treatment of Boils.—Dr. Jorissene, a French physician, aborts furuncles by applying an ointment consisting of 1 part of red mercuric oxide and 10 parts of woolfat, rubbing it in for three or four minutes once a day, or oftener in larger ones. Acone and Whitlow are answerable to the same treatment.

The Far-Reaching Dangers of Opium Smoking.—The dangers of the vice of opium-smoking as practised by Europeans and others returned from the Orient have a far wider reach than the damage done to the individual, as is shown in an article by Dr. Berillon (*Archives Orientales de Méd. et de Chir.*, April (*N. Y. Med. Jour.*). Dr. Berillon reports a case in which the vice was acquired by a wife from inhaling the fumes of her husbands pipe, which permeated the house; the amosphere of the room, saturated with opium vapor, established a craving which she was unable to resist. A further evidence of the pernicious effects is shown in the fact that the nurse, who was frequently in the opium atmosphere, manifested a desire not to be removed from the influence of the drug, and even the house cat showed a decided objection to leaving it. Our increasing commerce with the Orient renders it necessary that our physicians should be on the watch for the introduction and possible spread of the enervating and pernicious habit.

Operation Without Contact of the Fingers.—The problem of how to render the hands aseptic is solved by Koenig in one word, "Don't." He has become convinced that all methods of sterilization are unreliable and that the only means to insure absolute asepsis is to avoid direct contact of the tissues with the fingers (*Ctlbl. f. Chirurgie*, Leipsic, Sept. 8, *J. A. M. A.*). With the exception of abdominal surgery, he finds that instruments can take the place of the fingers in nearly all operations. The handles must be made longer than at present, and the number of retractors, etc., multiplied. With practice it becomes easy to work without direct digital contact, and to train the assistants in the same technique. If it is necessary to compress a vessel, for example, the assistant should first wrap his finger in sterile gauze.

Treatment of Exophthalmic Goitre.—In the *Philadelphia Medical Journal* of April 28, Dr. Roberts Bartholow discusses the treatment of Graves disease, with its complications and affinities. The opening paragraph speaks of this affection as "increasing in frequency and in the complexity of its relations to cognate affections of the nervous system."

The simplest form of the disease is purely functional, and cases are met with "due wholly to some strong emotion, as excitement or fright." A case is cited of a lady who received bad news while standing before a mirror. On noticing herself in the mirror she was startled to find her eyes enlarged and protruding. Afterwards there was thyroid enlargement and tachycardia.

Speaking of remedies, the author states that "much depends on complications."

"No single remedy has seemed to me so useful as electricity in the form of galvanofaradism. I have usually applied the descending stable current, so as to include within the circuit the pneumogastric and cervical sympathetic nerves. In the cardiac cases, such as mitral lesions, much good is derived from spartein sulphate and picrotoxin, and these may be combined with the sulphates of iron and manganese. In the more chronic cases, valvular lesions having occurred, the thyroid undergoing fibroid degeneration, and the skin being pigmented, the best results are had from the administration of the compound solution of the iodide and bromide of sodium and arseniate of sodium. The most probable explanation of the utility of this combination is the chemical fact that the thyroid contains iodothyrin, which, if not an active principle in the ordinary sense, is at least an important constituent which must be reckoned with in the therapeutic management of these cases.

"The hygienic management of exophthalmic goitre must, I am convinced, be conducted on different lines from those hitherto pursued. The rules for diet and exercise on the one hand, and for rest and solitude on the other, should be placed on a different basis from that which now obtains. Systematic movements not exhausting, mental occupation not unduly exacting or exciting but gently employed, are necessary to the healthy performance of function. Close confinement, as in the 'rest cure,' is not infrequenty hurtful to the mind, and that is not a permanent gain to nutrition which consists merely in the deposition of fat."

Acute Coryza.—The prevention of catarrhal disorders, according to Black (*Colorado Med. Jour., J. A. M. A.*), is best effected by recognizing the fact that the skin is the natural covering of the body, and that we should not keep air away from it. He does not mean

that we should go nude, but that the clothing should be such as will admit of a free passage of air to the skin. Underwear should be worn for only sanitary reasons and not for warmth. Wool should not be worn next the skin, but only for outer garments, while the material used for underwear should be linen, very loosely woven. The other clothing should be little heavier in winter than in summer, and when out of doors the overcoat should be in proportion to the severity of the weather. He claims he has put these theories into practice for five years with good results.

Iodide of Lime as a Remedy for Croup.—The brown iodide of lime is a preparation entirely distinct from the iodide of lime of commerce. The latter is a stable salt of calcium and iodine, of light color and of very little therapeutic value. Iodide of lime is an unstable combination of these two elements, of a very dark brown color with a large excess of iodine. Dr. Beebe, in the *Medical Summary*, March, 1894, praises this drug as a specific in croup. He says: "I have never lost a case of croup under this treatment, although I have used it for many years." He believes that every death from membranous croup could be averted by this treatment if employed within a reasonable time. He had never known it to fail when it had a fair chance. The drug is used as follows: Measure out 10 grains and dissolve in four ounces of water; let the superfluous lime fall to the bottom of the container and administer one or two teaspoonfuls every 15, 30 or 60 minutes, according to age and severity; less when the child is out of danger. Dont shake; keep in dark place.

Feeding the Infants of the Poor with Unsterilized Cow's Milk.—Dr. Palmer, in the *New York Medical Journal*, September 8, 1900, claims that pasteurization or sterilization impairs the food value of milk, making it difficult to digest, at times producing alimentary disturbances and causing disorders by reason of malnutrition. No amount of boiling will purify a foul milk, not even a temperature of 356° F. will destroy the bacterial products in the milk; if the milk contains any pathogenic bacteria, it will be impregnated with their toxines before sterilization ordinarily begins. If there are present comparatively few bacteria—for all milks contain some bacteria—and the milk is used a reasonable time after milking, the result will be more favorable than if the milk is used after sterilization. Sterilized milk is more easily contaminated than raw milk, and the ordinary housekeeper cooks the milk either too much or too little, in the former case diminishing its dietetic value, and in the latter making it an ideal medium in which the bacteria present may multiply.

Accordingly, if it is possible to obtain a fresh and pure milk, to pasteurize or sterilize it is very objectionable; if the milk is not too foul, given in the raw condition it is less deleterious than after pasteurization or sterilization; if it is altogether foul, it should be entirely discarded, for sterilization is then useless. Modification of the milk is of little importance compared wth its purity.

Tri-State Medical Society of Tennessee, Alabama and Georgia, in session in this city, has taken steps to secure medical legislation in those three States for the purpose of regulating or prohibiting the marriage of habitual criminals, persons afflicted with incurable diseases, drunkards and victims of harmful drugs.

DR. GOULD'S RETIREMENT.

To the Editors of THE MEDICAL TIMES:

I have just received the first official intimation that my services are no longer desired as Editor of the *Philadelphia Medical Journal*, the discharge to take effect immediately. The following editorial, written from private information, was inserted in the issue of December 29th, but was not allowed to appear. For considerations of courtesy to many subscribers, I would be pleased to have you publish this hurried word of goodby to the profession. The extinguished editorial is as follows:

A Personal Word from the Editor:—Just as the last forms are going to press I learn that the present number of the *Philadelphia Medical Journal* will be the last (except as to the Original Article Department of the next issue), for which I shall have editorial responsibility. I am unable to set forth the reasons why the Board of Trustees no longer wish my services as Editor. I am in complete ignorance what such reasons may be. I have heard of no criticism upon their part of my conduct of the *Journal*, and my communication handed to the Board in session on December 8th, expressing my desire to be retained as Editor, has not been answered.

To the thousands of friends, to all subscribers, who may read these lines, I can only here express my most profound regret at the sudden separation. In the endeavor to aid in establishing a great independent medical journal, utterly free from publishers' influence, from commercial bias, and from what is, if possible, still worse, an unprofessional spirit within the profession, I have given my labor and my life all too freely. What mistakes I may have made I trust may be excused in the belief that they were due to a sincere desire to devote every line of the reading columns to the cause of professional truth and honor.

Cordially,

GEO. M. GOULD.

119 So. Seventeenth St., Phila., Dec. 31, 1900.

The above announcement will be a surprise to those who have looked upon Dr. Gould and the *Philadelphia Medical Journal* as synonymous.

It shows that high ideals cannot be depended upon to successfully publish a medical journal without approved business methods.

Dr. Gould occupied the front rank in journalism, and his retirement will be a distinct loss to the editorial fraternity.

We are informed that Drs. John Hendrie Lloyd and Julius L. Salinger are Dr. Gould's successors.

P. S. Dr. Gould desires us to call attention to the fact that he proposes to establish a new journal, with members of the medical profession as its stockholders. The details of the proposition can be procured upon application.

Diagnosis of Incipient Arterio-Sclerosis.—Friedman (*Wien. Klin. Woch.*) believes that a groaning sound at the angle of the scapula is a positive and constant sign of an incipient arterial affection. The descending aorta should be auscultated from the back and the sound is plainly heard at a point which becomes lower as the patient gets older. In cases of arterio-sclerosis in either young or old, and in senile involution, the sign is best perceived at a point on a line drawn between the lower corner of the scapula and the second dorsal vertebra. The second aortic sound is most distinct.

MISCELLANY.

—Don't judge a man by his nose—perhaps it is only sunburned.

—A death from the effects of a bee-sting followed by septic poisoning is reported from Paterson, N. J.

—Several deaths among children in Toronto, Canada, have been traced to eating ice-cream which had been refrozen.

—Experiments made by German physicians have shown that about 25 per cent. of all school children have some defect in their hearing.

—Dr. H. A. Hare says that patients with renal troubles should not be sent to localities which are largely visited by consumptives, as Colorado.

—The physician to Empress of China is Dr. Hu King Eng, who graduated from the Woman's Medical College, Philadelphia, several years ago.

—A society styling itself "The American Society for the Prevention of Premature Burial" has been organized in this city.

—An imperial decree has been issued in Austria which admits women to practice as physicians and chemists on the same conditions as men.

—Residing on a little truck farm near Omaha is a man about fifty years old—S. O. Buskirk by name—who has shed his skin and put on a new epidermis every year since birth.

—The next International Medical Congress will be held at Madrid, in 1903. Professor Calleja was elected president, and Dr. F. Caro, inspector-general of the Spanish navy, secretary-general.

—An establishment for the giving of sun-baths has recently been opened in Strelau, a suburb of Berlin, and is extensively patronized. Many Berlin physicians prescribe these baths for nervous complaints.

—Dr. W. S. Clive (*Alkaloidal Clinic*) suffered from rheumatism and sciatica the torments of hell for six weeks; cured in less than three minutes by rubbing from hip to heel half an ounce of carbon bisulphide."

—Minute red points dotting the palpebral surface of the conjunctiva is a symptom observed by Homan in cases of measles, and which, he believes, may be found even earlier than Koplik's oral sign.

—By enforcing the strictest regulations in regard to muzzling and the importation of dogs, the disease of rabies in dogs and hydrophobia in man has been practically stamped out in England.

—A lady nurse rushing fervidly to her patients in a Cape Town hospital ward, found her favorite soldier fast asleep. Pinned to his coverlet was a scrap of paper on which he had laboriously scrawled: "To il to be nussed today respectfully J. M."

—The Government of India, considering the good results obtained from protective inoculation against typhoid in the British army, has issued orders to resume measures toward the inoculation of the soldiers entering the army of that country.

—Dr. Bachman of Shanghai asserts in the *Gegenwart* that Emperor Kwang Su suffers from cancer of the throat, and that he is unable to reign. The same view is taken by Dr. Detheré, a French physician, and by Dr. Shenglinag-Feng, both of whom have examined the Emperor.

—The *Indian Medical Record* quotes the advertisement of Nawab Syed Delawar Reza, who wants a European, Eurasian, or Armenian "smart doctor" to act as private physician, secretary and steward at 100 rupees monthly, board and lodging. He specifies in conclusion that those not of noble birth need not apply.

—A very peculiar fatality occurred lately at Southsea, England. A gentleman was undressing on the beach preparatory to bathing. There was a very cold wind, and the man in shivering with the cold swallowed his artificial teeth, which choked him. When picked up he was dead.

—The famous blind oculist, Dr. Javal, a member of the Paris Academy of Medicine and director of the Sorbonne Ophthalmologic Laboratory, has been promoted to the highest rank in the Legion of Honor and decorated with the German Black Eagle. Although he is 60 years old and has been blind for twelve years, he still continues his scientific work.

—New York physicians have recently been receiving from a certain cremation company a circular which reads as follows: "This certifies that, in recognition of the support which our cause has received from physicians generally, —— ——, M.D., or any member of his immediate family, is hereby entitled to incineration without charge at our —— crematory, upon proper endorsement and surrender of this certificate, within ten years from date. Kindly return this certificate if you do not wish to use it."

—The juice of the green pineapple is accredited in Java and throughout the Far East generally, says an exchange, with being a blood poison of the most deadly nature. It is said to be the substance with which the Malays poison their creeses and daggers, and to be also the finger-nail poison formerly in use among aboriginal Javanese women almost universally. These women cultivated a nail on each hand to a long, sharp point, and the least scratch from one of these was certain death.

—Five years ago the Russian Government assumed control of the manufacture and sale of alcoholic liquors. In nearly all the provinces the saloon has been supplanted by the Government shops, in which a guaranteed pure article is sold in a limited quantity to each customer. None is sold to those already intoxicated. These shops are located quite a distance apart, and no one is allowed to drink liquor on the premises where sold. The system is supplemented by officially appointed local committees in each large town, which are supplied with funds to establish attractive temperance restaurants, reading-rooms, and people's palaces. They are expected to maintain a general crusade against the use of alcohol. A portion of the enormous profits of the liquor monopoly is devoted to this purpose.

ORIGINAL ARTICLES.

LIFE AND ITS ASSOCIATION WITH MATTER: MATTER NOT VITAL BUT ABSOLUTELY CHEMICAL.*

BY E. C. HEBBARD, M.D., BOSTON, MASS., MEMBER MASS. MED. SOCIETY.

PART II.

The second, or luminiferous ether, is a discrete aggregate upon which is manifested the play of the continuous aggregate. It is a highly attenuated material, and offers little or no resistance to the movement of celestial bodies.

This second ether permits the manifestation of the composition of the potentialities which are present in the form of a mechanical atmosphere of these agencies from which, by molecular agitation, heat is drawn.

Light is the visible expression of heat; electricity is a modification of the same influence that produces light, but whose presence is not perceptibly expressed until molecular agitation has attained a certain degree.

The molecular groupings of the potentialities manifest themselves as the imponderable agencies of nature, which are confined in all the solids, liquids, and gases of the material nucleous. The disturbance of these physical agencies produce the activities of the molecules, thus becoming the directing influences for combination in the production of different states of bodies.

The unvarying inclination to combine gives rise to the cause of motion.

Material, having a tendency to combine, does so by overcoming the forces that oppose its unity. This is the cause of chemical affinity, which is the incentive for combining; in which process the electrical fixity of the units takes place.

In the peculiar manifestations of this tendency toward combination of the elements in producing compounds by multiple proportion is the positive evidence of divine impression which is no more nor less than the creative manifestation in the prevention of the exertion of more than a given amount of energy.

This, of course, renders possible the harmony of evolution, and creation for, though evolution law and order manifest the divinity of impression.

The elements can be described only by their potentialities, since matter is of like nature in all instances. As, for instance, oxygen promotes combustion because of the intensity of the potentialities of its units to combine with combustible matter.

In examining into the nature of chemical activity that is going on during the time that life is associated with the organized body, we find that oxygen, by the process of oxidation, performs the same office and consummates the identical purpose as does nitrogen in our atmosphere, that is, the protection of all living beings from being consumed by oxygen; consuming the body and at the same time supporting life.

An example of the change of state in manifestation of the divine impression, is evidenced in the chemical combination of iron and sulphur in the formation of sulphate of iron; after which process properties are manifested different from those manifested by each before uniting; the iron and sulphur being still present and combining to form crystals, a molecular arrangement taking place permitting the passage of light through them; iron and sulphur both, as we know, opaque before their combination, are, by the change, rendered transparent in a measure, and made to approach nearer to the state which we call the composition of the potentialities, by the presence in their bodies of the more modified potentialities. If we add sulphuric acid, it will, in the presence of water, place them still nearer to the second ether, since that contains more still of the potentialities; then we have these well-known agents widely differing in appearance from that originally distinguishing them.

Now, were it possible to continue the same process of division to infinity, there would be produced a discrete aggregate whose units would equal the most attenuated matter in space; nay, more; infinite division would bring them into the state but little removed from the condition of phenomena, which is space itself. Imagine all the other elements and compounds reduced by a process of infinite division, and we approach a continuous whole.

This according to the theory I am demonstrating.

By an opposite process we have the exemplification of the return of substances from infinite division into the state of solids by accretion, during which process the potentialities were becoming pent up in them, which is evidenced by a liberation of these potentialities again when required.

The different colors arising from the action of light upon molecules of matter, agitated till they assume specific vibrations before their manifestation, makes reasonable the deduction that light must be subservient to innumerable other molecular arrangements, especially part of that mysterious arrangement which is absolutely essential for the manifestation of life itself, since light appeared before the manifestation of life.

The spectroscope has evidenced that a greater portion of the units of the earth which contribute to the chemistry of known formation, are in a molten state in the sun; while of the units which emanate from the ethereal system we have no knowledge except that deduced from experiment.

We are surrounded by an atmosphere both solar and ethereal; hence, we have both a solar and an ethereal breathing. The form of breathing requisite to chemical interchange is derived from the solar breathing. The breath of life is derived from ethereal breathing; death discontinues the chemical breathing, but that of life continues onward to eternity. (See note No. 5).

Thus it is made evident that the transformation for reproduction keeps pace with the apparent reduction of available energy; the order of continuous change manifested throughout the universe, being synonymous with formation and transformation in all things from eternity, onward to eternity.

We account for the tidal wave of respiration by the entrance and expulsion of chemical matter in its contribution to that process which brings about the gradational combustion of the body; the chlorophyll of the vegetable cells being as necessary to the performance of the decomposition of carbon-dioxide into carbon and oxygen, as is the iron of the red blood corpuscles absolutely necessary in causing these corpuscles to become the carriers of the oxygen.

Vegetation, in the absence of light, becomes impoverished in the same degree as organized life would be deprived of more or less oxygen.

Chlorophyll and oxygen, therefore, must be the incentives to the vital dynamics of vegetable and animal life. (See note No. 6).

Generation is that process having the ability to abstract and appropriate to itself the matter of its surroundings, the units thereof entering into the separation, and converting the matter acted upon into some-

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thing entirely distinct and different from the original.

We are given evidence of this in the process of fermentation, by which the different fungi show there their work; some types analyzing, while others build or synthesize.

Hence we see that all vivifying processes, by differentiation in the production of types, bear a marked resemblance to the immutable changes constantly going on in all inorganic phenomena.

Nature is the mother of animation.

The first degree of organized intelligence was made manifest when from the external world the monad abstracted its subsistence matter; the matter upon which it lived, grew, and reproduced.

From the propagation of the simple unit began the formation and colonization of the simple cells, which by an evolutionary process in the great scale of vitality, continued upwards, until in the production of man culminated the grandest effort of nature; and by which came the formulation of specific differences in the formation of different morphological types, both in the inorganic and in the organic world.

There are specific differences in natural products, hence all things must have had a gradational formation; otherwise, everything in nature must have been produced at the same time; in which case evolution could not be considered.

Progressive differentiation is the identical process of structural change going on throughout all the stages necessary for the production of species.

Every change taking place in the process of differentiation may be described as morphological; that term "morphological change" being synonymous with every material alteration taking place, as manifested in the disuse of some organ, and the appearance of others.

Biologically there is no change. Life manifests itself in the same way under all circumstances, and is the only thing in nature representing an unchangeable continuity that has an element of infinity.

This entity remains the same during every morphological change, and bears with it evidence that it has passed through the successive stages in the process of species-development, in addition to the possession of that divine imprint of registration.

The supernatural impression is made manifest by the power of continuity. By this, matter receives the influences to reproduce its kind which are differentiated morphologically.

The life of man and his chemical activity are distinct entities, temporarily associated, but in no way related otherwise.

When death, which is not a reality, but an appearance, comes, these distinct entities separate; the chemical returning into the inorganic state, and the living into the supernatural, from whence it proceeded; hence it will be noted that no matter that enters into the body as food ever becomes "living matter," but is simply received to administer to the chemical activity of the body, which is continued by physiological functionality; the process requisite to the abstraction and appropriation of the energy confined in the different kinds of food containing it; heat and the other forces being necessary to the continuance of the metabolic activity in the histochemistry of man.

Life, therefore, requires for its temporal presence in the body, the combined activities of the potentialities confined in the different chemical elements and compounds that contribute directly to the corporal formation.

If we take the ground that life is not a distinct entity and continuous whole, then we must consider matter as an entity endowed with sensibility; wherefore, all units that enter the body as its sustenance must possess their part of consciousness and sensibility, which they give up in the process of chemical transformation, thus contributing to the formation of life. Accepting this, the same recognition between any two particles of matter must take place as between any two animals.

The conception is, by far, more marvellous than the conception of the conscious entity as distinct and different.

The theory herewith set forth does not agree with the ordinary acceptance of the idea in regard to the body possessing the power to elevate the dead matter of the surrounding world into the so-called "living" matter of the body, but it does accept the distinction as just now demonstrated.

If life and matter and force could be established as identical, or, even, to have anything in common, then there might be argued for it the same natural process; but even those theorists who discover such dissimilarity that they cannot in any way account for it, are those who claim for it the same change that all material undergoes—or annihilation—whence it returns to its primal source. But, it having been shown to have nothing in common with matter and force, the question remains: Where does it go?

Life, then, is the most positively manifested thing in nature.

It is that about which the least is known.

It manifests itself in the same way, and is the same, in every living species, and yet it lies outside the sphere of experimentation.

Over the origin of species presided, and over their differentiations, still presides, that marvellous and mysterious agency which remains identical, irrespective of any complex matter in whose composition it appears; the only real and positive entity that is associated with any material environment.

I do not see that it taxes the faculties any more to conceive of life coming from a supernatural sphere than to assume that matter by its own modification evolves vitality or life. The miracle is more on the side of materialism than on the other. The materialist argues miracles more than those who accept them without argument. That life emanates from the substance is a greater miracle than that life enters the substance when it is ready for the inception of life. It does not require half the argument on a supernatural basis to accept life as a distinct entity than to accept it as emanating from material substance.

There is either continued production of the spirit emanating from the substance or the spirit is an unchangeable entity that is independent of all matter that we understand as such, matter tangible to us. It must be the one or the other.

Returning, for a moment to matter:

There is only one kind of matter in nature, viz: Amorphous, or non-crystallizable matter: and this modified by the physical agencies accounts for the physical and chemical distinction between so-called organic and inorganic matter, without the aid of vitality to explain the distinction.

The only difference between so-called organic and inorganic matter is that one is more highly elaborated for living association.

It is necessary to understand the chemical action going on in the inorganic world before we come to consider the same process in the so-called organic. There being only one kind of matter, the physical differences of

substances are due to the potentialities or physical forces pent up in each particular element: the composition of these elements gives them their peculiar power and properties; so they are really compounds of simple matter plus their peculiar arrangement of forces. Chemical combination being governed by the liberation of the same stress as illustrated in the combining of the potentialities of electricity before the spark appears.

Crystallization is the result of the polar forces remaining in amorphous matter, thereby changing its consistency: amorphous matter remaining such when the polar forces leave as well as enter it: animal matter being a modification by differentiation, of amorphous matter. This entering and leaving process is the cause of animation and reproduction, making protoplasmic movement necessary for animation or life to appear.

Here is how life appeared and abides with matter, and probably first appeared at various localities over the earth at one and the same time.

It is easier to think this is so than to believe that each race had its distinct and separate creation. The condition for life being evolved, life came.

This entering and leaving of the polar forces from the cells forming the body is known as the internal respiration of cells; this continues their viscosity during functionality.

This highly elaborated matter known as protoplasm—the result of chemical differentiation, was necessary before life could appear. Protoplasm possesses motion, secretion, digestion, excretion and reproduction. Here we see that the house was prepared for the coming of the guest, the individual life, the personality, "and God breathed into him the breath of life."

In examining into the chemistry of the building up of so-called living compounds, we should understand the chemical action going on in the inorganic world and how it takes place.

All non-crystallizable mineral matter contributing to the formation of protoplasm is colloid in its nature, possessng a specific degree of viscosity and flexibility.

As we ascend from the first unit or cell of protoplasm in the scale of vitality, we reach that degree of morphological differentiation where the crystallizable matter for the fabric of the higher species is required. Such being the case, a very necessary distinction is made between protoplasm on the one side and crystallization on the other, in explaining the way in which organizable differs from inorganizable material on a chemical basis, life taking no part in elaborating this distinction, vitality or life coming to it when nature has completed its work of elaboration and then only by association for a limited time.

(The term colloid represents all the soft and flexible parts of the tissues of all bodies that in the absence of crystallizable mineral matter does not crystallize.)

In the albuminoid principles are combined intimately the crystalloid and the colloid. In the albuminoid we have both the nitrogenous and non-nitrogenous principles intimately combined. These principles are found as products of the decomposition of the albuminoid, as it is from these that we separate the colloid from the crystaloid in the process of dialysis.

The colloid matter is the animal matter of the body. The colloids of protoplasm are proteids which permeate the crystalline part of the animal body. In all instances of so-called living matter we find colloid matter. Mineral matter is in association with protoplasm to continue the chemical changes in the process of reproduction, but it is perfectly distinct from the colloids of protoplasm. Protoplasm is a representation of the completely elaborated compounds taken into the body as food.

The chemical interchanges in health and disease, are to be found in the colloids, which of necessity require mineral matter to conduct such changes on account of the intimate association of the colloids with mineral matter, and without which the interchanges could not go on. The crystalloids build up the fabric of the body, the colloids institute and continue the process of reproduction. Through the colloid the binary becomes ternary. In order to form a colloid body, we require in all instances the same aggregation of chemical matter, which is arranged about the same way in every living body. We no not require a special aggregation of chemicals to form crystals, as crystals can be formed by different kinds of matter. Notwithstanding that the inorganic part of the body is the mineral part, in the absence of the mineral, life could not go on, making the mineral of the inorganic as indispensable to life as the colloids of the organic or living.

The condition for life to appear must have been first, which gives us the authority to assert that crystalization existed before colloid or albuminoid formation. It is evident that carbon and phosphorus had to be formulated by the physical agencies of nature, before life could appear. This fact is absolutely certain, showing that life depends upon a certain chemical nucleus in order to associate itself with matter. After the central point is formed, which resembles a nucleus in the accretion of particles to the formation of crystals, we have evidence in inorganic nature of the forces acting from the periphery or circumference to the center by the accretion of units, manifesting the law of symmetrical aggregation, the units being arranged during crystalization by the polar forces internal and external to the matter acted upon, so that there must be a reciprocal response between the forces acting interior to a crystal and those acting exterior.

When colloid matter loses its polar force it cannot be made to crystallize. Rhythmical attraction and repulsion within given limits is the cause of flexibility in colloid matter. The highest function of the crystal is its structural power, derived from the polar forces of its units arranging themselves symmetrically about its central point or nucleus. The gradational abstraction of polar force from crystallizable matter causes rythmical motion in colloid matter. In what is called living matter there is another agency acting which distinguishes the difference between the so-called living and the non-living matter. The forces acting within and upon the matter associated with life not only possess everything in common, but are identical with the forces of nature. Each particular crystal demands in all instances the same influences, which minister to the production of its type. The forces forming the crystal are the same forces acting in or controlling the symmetrical aggregation of the cells forming the human body.

If we examine into the mode of growth of the simplest unit or cell, we shall find that functionality arises from the center or nucleus, where there is one, and then extends gradationally to the circumference of the cell, but there is no growth whatever manifested in dead matter.

Morphological differentiation continues with psychic evolution, the matter associated with this agency acting through and in harmony with it, from the inward where life has entered to the outward; that is, from the center or nucleus of the cell to the periphery or the circumference.

Every living thing requires either a nucleus or a central point of origin before it can appear, sustaining the fact that there must be only one kind of matter in nature, although there are cells without a nucleus but not without a central point. Heat, light, electricity, mechanical power and magnetism are the agencies acting upon one kind of nucleus of like nature throughout, causing and bringing, by colonization, the many different kinds of animal bodies into existence, a sort of creation, as it were, as far as material goes, on a natural and not a supernatural basis.

To digress for a moment to clearly illustrate the influences of these agencies: a digression to be fully discused in my paper on "The Mechanics of Therapeutics, or the Potentialities in Scientific Formulation."

The public are interested at the present moment in finding an elixir of life. The basis for this "Elixir" must be hunted for among those compatible potentialities that sustain combustion and fermentation (food administers only to the chemical activity of the body, thus supplying energy only), for it is by this process that the body is sustained in its normal chemical integrity; in other words, as the potentialities direct chemical and physical transformation, use that which the body requires to promote organization and the nearest thing to the so-called elixir is found. As the nerve centers are the means used for the generation of energy, they being the highest organized bodies, rich in phosphorus, it will be seen, to promote their normal vigor, pabulum requisite to their requirement must be supplied. The following formula, therefore, is selected from among many others, covering the scientific treatment of disease, in my paper on "Formulation," to illustrate this point. Simple as it may seem, it is the nearest thing to an elixir of life possible to obtain. As I am the first to announce this combination of chemicals to the medical profession, I feel justified in claiming the credit that is sure to result from its use.

℞ Potassium carbonate, C. P.....3viiiss
Acidi oxy-succinic (Merck).....3iii
Aquæ (Tredyffrin q. s. ad.....Oi.
Misce.

The acid (previously powdered) should be added slowly, to prevent too active effervescence. Let stand ten minutes, and filter through two thicknesses of filter paper. The fluid should be of crystal purity. Dose, 10 drops in tablespoonful of water one hour after the morning and evening meal. To be continued one month in average cases. Applicable to all neurasthenic conditions, especially to worn out, overworked people, young or old. It has proven a specific in overcoming the sclerosed patches in tabes dorsalis, and so curing the disease, when continued for from two to four years, especially applicable to many forms of paralysis and insanity. Useful for enlarged glands and in all forms of tuberculosis, which is a disease of premature cell-decrepitude, permitting germ attack. Children suffering from a want of mental development will be benefited in every case. Its use should be long continued in such case, in 3 to 5 drop doses twice a day. No possible harm can come from its permanent use if it does not overstimulate. It may be taken in tablespoonful doses, if immediate stimulating effects be desired, or used hypodermically in half dram doses in cases where the immediate use of brandy is called for. If above water cannot be obtained, ordinary water will do. This, if used, will show fungi in a few days, owing to the organic matter most waters contain. It may then be filtered.

Under no circumstances is distilled water to be used in its preparation, as distilled water, owing to its solvent properties, is too destructive in its action on cell protoplasm. Articles of diet containing acetic acid, such as apples, pickles, vinegar, cider, etc., should be prohibited during its use, and all drugs that are incompatible to the body's requirement, especially the coal-tar derivatives so extensively prescribed to-day, and which, being incompatible, are unscientific. They should never be used. The profession is welcome to the above formula, which will prove its value in all cases requiring its use.

It is possible to prolong the life of humanity some ten years by scientific formulation, not directly in curing disease, but in preventing it. One principal reason why an elixir of life is impossible, is in the fact that through natural law a period of cell decrepitude commences in both sexes between the ages of forty-five and fifty years, owing to the daughter cell not possessing the spermatic vigor of the mother cell, thus reducing the quality of tissue formed, as the cells become gradationally less vigorous to sustain life. Matter being discrete, is not equal to life, which is continuous. If it were, life could be prolonged at will indefinitely. At the period of the change of life the potentialities become less qualified to sustain life. This is seen in both the animal and vegetable, therefore, old age, being a physiological process, is destined to appear: the natural period of decrepitude unto so-called death; which is the liberation of life from its material environment. To increase the spermatic power of the cells those elements rich in compatible potentialities must be used to promote organization, and so prolong the process of decrepitude. There can arise no regressive transformation of tissue when the natural elements of the cell composition are in normal proportion. Should the formula be used in any diseases not mentioned above and should act with too much force, the dose should be lessened, or suspended for a week or so, and then resumed in smaller or less frequent dosage. But to resume. It was absolutely necessary, before life could appear on earth, for the potentialities of nature to prepare a nucleus for this purpose.

Before we can understand anything about the cause of the appearance of this nucleus, its nature and composition must be understood.

Phosphorus as a nucleus in the formation of protoplasm becomes the point or nucleus which permits the action of the electrical potentiality of nitrogen, drawing the polarities of the earth through it, in conducting the physical and chemical changes for the production of seeds, plants, vegetables and animals.

Nitrogen is the incentive acting upon the nucleus first formed by the agencies of nature, and thus starts the process for the ultimate production of protoplasm and afterwards animation.

Sunlight, acting upon phosphorus in the prepared nucleus, attracts an electrical energy or potentiality pent up in nitrogen. This by the aid of magnetic iron, carbon and amorphous matter, attracts or draws forth the electrical energies from the polarities of the earth, through phosphorus as a nucleus, which starts the oxygenating process and prevents the amorphous matter from becoming crystalizable; generation then arises, when life comes. To still further explain the phenomenon of reproduction, fermentation in brief must be considered.

The soil of the earth with its environment generates the specie. The soil furnished by the female during fruition is merely an elevated state of the soil of the earth. The chlorophyllian function of the plant is to break asunder the bonds holding carbon and oxygen

together, appropriating to itself part of the carbon upon which its growth of substance depends. The function of the higher animals is to feed upon and transform the matter of their environment into the substance of their own bodies. The demand made upon fungi, by the agencies acting upon them, compels them to abstract from their environment that which institutes fermentation, reproduction going on during their activity, causing more of the same kind of bodies to appear. This will in a measure explain the phenomena of reproduction as far as fermentation is concerned.

The synthetical process of building up belongs essentially to the carbo-hydrates, and the analytical or splitting up process belongs essentially to the mineral or inorganic kingdom, again making the distinction between the so-called organic and the inorganic in a chemical point of view. The synthetic generators are the first known builders, the lowest order of living units possessing the power to transform the inorganic into the organic.

Here is where the scientist supposed life to be generated from matter spontaneously.

The lowest order of reproduction is manifested and carried on by these units imbibing and transforming the matter of their environment. This is where generation commences, not from one unit in particular, but from an infinite number of units at one and the same time, as there are many different types of synthetic generators, after which generation continued in its evolutional course of differentiation for the production of higher species.

Since there is only one kind of matter in nature, modified by the potentialities before mentioned, there can be no limitation to the production of differences as a consequence, except in the case of a perfect crystal, as we have reached the limitation of morphological inorganic differentiation when the type of a crystal is produced. In evolution, differentiation arises and is without limitation, there being no end to the production of differences.

Since the vegetable lives to a certain extent upon what the animal throws off, there must of necessity exist a neutral point between them. One degree removed each way from the neutral point would produce the Zoöphyte and by chemical and morphological differentiation, a distinction is ultimately reached between the animal and the vegetable unit or cell. The distinction between the animal and the vegetable came at the same time that the first living body, in the form of colonization of cells, obtained the power to locomote en masse and at will, and this probably by the aid of nitrogen.

Nature requires motion in animal bodies before locomotion can take place, the force and power being taken from the food and air which are the necessary dependents of the animal for its degree of motion. Since action and reaction, and motion to and fro, are essential to the splitting up of the pabulum and returning of the excreta to the external world, we have absolute authority for the origin of that flexibility and viscosity necessary to associate the crystal with the colloid.

This is the first necessity for the institution of motion, which is indispensable to all animation; that is, intrinsic and extrinsic motion or the taking in of matter from the environment, its conversion and the waste matter after conversion returned to whence it came, as taking in, elevating and returning is the function necessary before reproduction can take place. Successive impulses transmitted and absorbed give to bodies the power to locomote. These influences must be rythmical or regular in their progression, the volitional continuity of which enables them to transport themselves bodily from one point to another.

In the absence of nitrogen, locomotion does not take, nor can it be made to take place. Nitrogen possesses more electrical potentiality than any other element in nature. I prophesy that the day is not far distant when nitrogen as fuel will run the machinery of the world. Given the nucleus and means of gradational control of transmission and the problem is solved.

The explosive power of nitrogen originates locomotion. Now, by the rhythmical explosions of nitrogen the respiratory process originates and continues, which is the cause of that motion in nutrition, such as the taking in of the essentials for vivification and the removal of the waste and wornout matter that is not required in the economy.

Since explosions are consequent upon the instantaneous liberation of nitrogen, we can by modifying the speed of the elimination of nitrogen from any compound, modify the explosive power of that compound; and in the process of respiration, upon which animals depend for their ability to breathe and locomote, we must understand that there has been a modification of the explosions of nitrogen until they have become rhythmical and continuous. In all instances of explosions, where the propulsion of units one from another takes place, the explosion is a measure of the force exerted in producing it. The nitrogenous series of medical treatment are more directed to the nerve centers than to any other part of the body, and as the nerve centers originate the incentive to locomotion, it is seen that nitrogen is required for locomotion, and where we get nitrogen, carbon, oxygen and hydrogen completely arranged for the association of life, we have all those essentials necessary for the purpose of locomotion. Intrinsic motion arises and is sustained by the nitrogenous series combined with the carbo-hydrates, making perfect pabulum necessary, which must contain nitrogen, carbon, oxygen and hydrogen.

It is not the vivifying power of oxygen, but of nitrogen, from which the generative and reproductive processes originate and continue.

Carbon is always found in the formation of the colloid, as it is a carbon compound and associates with the crystalloid to promote functionality by its gradational combustion by oxygen. Where carbon dioxide is formed in nature, it is always as a product of either slow or rapid combustion. The burning of any combustible matter outside of the body is identical with the process of combustion that we have in burning the body to sustain life, the temperature only being different. The combination of carbon with oxygen in the production of carbon dioxide is identically the same that goes on in the body. The formation of water is the same both in and outside of the body. The combination of nitrogen and hydrogen to form ammonia is the same. The formation of sulphuretted and phosphoretted hydrogen is the same. In fact, there is no distinction in the chemical combinations of the mineral parts of the body, as they are identical with the same changes going on at all times outside of the body. The only difference between the so-called organic and the inorganic process is, that the one is merely a further elaborated condition of the other, being on a higher plane of action, which means a more rationally systematic grouping of those elements that are found in inorganic nature; so that the whole process of organization is not vital, but absolutely and exclusively chemical.

It is thus shown that life is not the progeny of the cells, but that it comes to abide with matter when mat-

ter, by the aid of its potentialities, is elevated to a state for living association; consequently the only difference between "organic" and inorganic matter is that the one is elaborated to a higher plane than the other.

[NOTE No. 5.—DEATH: The gradational or instantaneous liberation from the units of the body, of the solar potentialities of the universe, Life, therefore, is found, not lost.]

[NOTE No. 6.—Facts concerning the Chemistry of Chlorophyll and Hemoglobin:

In the course of an address at the sixteenth annual meeting of the Society of Chemical Industry, held in Manchester, England, on July 14, 1897, the president, Dr. Edw. Schunk, in speaking of organic coloring matter (*Journal of the Soc. of Chem. Indus.*) said that by the action of strong acids on chlorophyll a certain product is obtained, and the action of alkali on this product, in sealed tubes, leads to the formation of phylloporphyrin, a substance crystalizing in lustrous red needles which has remarkable properties. Treated in a similar manner, hemoglobin yields an analogous substance—hematorporphyrin. Now these substances, phylloporphyrin and hematoporphyrin, resemble one another in several respects in a most remarkable manner. Both are red and give red solutions; both act the part of weak bases towards strong acids; both when heated give off fumes of pyrrol; the etherial solutions of both show absorption-spectra of seven bands, the intensity and relative position of which are in both cases absolutely the same, the only difference being that in the case of hematoporphyrin the bands are slightly nearer the red end of the spectrum. As to composition, too, the two substances approach one another, that of phylloporphyrin being expressed by the formula $C_{16}H_{18}N_2O$, that of hematoporphyrin, according to Nencki, by $C_{16}H_{18}N_2O_3$; they differ therefore in the amount of oxygen they contain.—*Medical Journal.*]

HIGH ALTITUDES IN THE TREATMENT OF PULMONARY PHTHISIS.

BY THEO. J. JACQUEMIN, M.D., NETCONG, N. J.

SOME weeks ago it was brought to my knowledge that a convalescent hospital is about to be established near Manila, in a location about 4,700 feet above the level of the sea. At such an elevation we are warranted in speaking of a high-altitude resort, and I thought it of interest to say a few words of the influence of such resorts, especially with reference to pulmonary tuberculosis.

It may safely be asserted that the question of climatotherapy in connection with the treatment of pulmonary tuberculosis has received the most careful attention, and has awakened wide-spread interest in the three latter decades of the past century.

We knew long ago that ocean climates are of the greatest benefit to certain cases of lung disease, as bronchitis, emphysema, congestive phthisis, where a pure air, free from dust, but moist and of equable temperature, is desired. Ocean voyages have been greatly in favor with some authorities on the subject, but it is a matter of fact that they should be recommended to phthisical patients with extreme caution. The confinement and overcrowding in cabins and staterooms, the want of exercise, and the costive habit thus produced, tending to excite hemoptysis, are all grave disadvantages and may counteract any benefit to be derived from the sea air.

It is generally admitted nowadays, and acknowledged by every scientific physician, that the breathing of fresh air, by night and by day, in all seasons and weather, is the only effectual means of victoriously fighting the "great white plague."

Furthermore, it has been recognized that at all the fresh-air resorts, those, especially, are producing the most favorable results where high altitude and, consequently, barometric depression, imparts to the climate a series of conditions which, by their effects upon the organism, fulfil the fundamental requisites of a treatment for phthisis.

The conditions met with in mountainous climates and which, as contrasted with those of plains, impress upon them their fundamental character, may be briefly stated as follows: Great rarefaction of the air, as shown by the barometric depression, cold winters, less subject to sudden variations of temperature than the summer, and as a consequence a more protracted season of solid snow; greater movement of the atmosphere, lessened humidity, great freedom of the air from dust, mineral as well as organic, a large amount of ozone in the air, no lasting fogs or clouds, increased sunlight, and, last but not least, *powerful solar radiation.*

All those conditions combined produce upon the organism, in all seasons, a series of effects, some general, *viz.*, increase of appetite and digestive capacity, augmentation of muscular force and power of motion, stimulation of the nervous system; others of a special nature, the latter being the direct result of the rarefaction of the air. Before we consider these special benefits derived from the barometric depression, let us say a few words about the great remedial agent, the *sunbeams,* in which we should henceforth see not only the great light and heat giver, but also the powerful electrifier; by the solar radiation's invisible, ultra-violet or chemical light-waves, possessing many of the mysterious powers of the Röntgen rays, the beams of the sun play a very prominent part by maintaining the air in an electrically positive condition. Although Dubois-Reymond, Pflüger and Hermann had proven, many years ago, that the electric potential, or "status electricus," of a healthy and well-conditioned brain is of the positive character, the distal nerve filaments being electro-negative, it has only lately been shown that the healthy and nervous energy of the earth's inhabitants depend very largely upon the presence of positive electricity in the atmosphere.

Now, as far as the effects of a special nature are concerned, let us state right here that although the weight of oxygen in a cubic foot of air is decreased at high altitudes, the oxygenation of the blood is increased; moreover, there are marked numerical increase of the red blood-corpuscles, quantitative increase of hemoglobin, not always proportional to the numerical increase of the red blood-corpuscles, but constant, and always more or less pronounced. There are also: Increased capacity of the blood for absorbing oxygen, increased activity of the nutritive process and organic changes, and, hence, an increase in the quantity of carbonic acid in the air expired. Next we have permanent and unconscious increase of the lung expansion and the diameters of the thorax; increased activity of the cardio-pulmonary circulation and diminution of the amount of blood in the lungs. Lastly, increased pulmonary evaporation, resulting in proportional refrigeration of the lungs and tendency toward desiccation.

It is easy to understand that the special effects are by far the more important of the two, the more so as they are solely dependent upon the altitude, having no connection with the severity of the climate or the mildness of temperature. *It is the altitude that constitutes the remedial agent, and its action is independent of the seasons.*

Taken in their entirety, the effects of high climates on the organism correspond to *those symptoms* which may be designated as *an indication* of their employment in the treatment of phthisis, namely: *Constitutional hypertrophy,* on one hand, and, on the other, *sluggishness, hypertrophy and catarrhal obstruction of the lungs.*

While it is self-evident that the effects which derive directly from the rarefied air are obtained in full at any time of the year, the more general effects of tonicity and stimulation are less intense in spring, summer and autumn than in winter time, *speaking of high climates in general.* This circumstance indicates fully when is the time most favorable for the so-called acclimatization of the patient to the high-altitude resort.

High climate is a powerful remedial agent, and, consequently, urges upon the medical man the necessity of studying with great care the paramount question of tolerance in each case. In spite of theoretical, indisputable efficacy there arise numerous contra-indications which prohibit a sojourn in high altitudes, and it is certainly to be believed that in daily practice fatal mistakes are being made when so often we see patients sent away to Colorado, Arizona, New Mexico and other States, only to be brought home too soon in their coffin.

As for indications, contra-indications, selection and regimen of high-altitude health resorts, we would state, in the first place, that there are certain conditions, independent of phthisis, which, by themselves and under all circumstances, form an obstacle to sojourning in high climates. These are, from a physiological standpoint, *nervous temperament, approaching a state of permanent excitement and erethism,* and, pathologically speaking, *diseases of the heart* and *blood vessels;* extensive *pulmonary emphysema* and *asthma,* especially when the paroxysms increase in frequency and severity as soon as the patient ascends ever so little above the level where he lives habitually.

The form of phthisis known as the *pneumonic form* excludes, unreservedly, every altitude resort, at least in the winter. In the common form of phthisis it is the reactional phenomena of the patients that are to be taken as the fundamental criterion of their ability to be benefited by the mountain climate.

High altitudes are also contra-indicated in all febrile cases where the fever is continuous, as well as those in which fever is slow in making its appearance, presenting and keeping, in spite of appropriate treatment, a REMITTENT TYPE. In respect of *intermittent fever,* with vesperal exacerbation, it will be understood that this alone does not constitute a contra-indication. Nor does a previous attack of hemoptysis, even if repeated on several occasions, furnish an absolute contra-indication when it stands, as it were, by itself; here, everything depends on the *reactional phenomena* at the time of the hemorrhagic attacks. Indeed, patients who are subject to hemoptysis may show either erethism or sluggishness. Experience has taught that, for the former, residing at a high altitude is altogether disadvantageous; for those of the second class, on the contrary, high-altitude resorts are the very best thing that can be suggested.

And now, concerning the most important point, to give careful examination and sufficient thought, the *extent of the pulmonary lesions:* When they are limited to the apex they may be ignored; but, when a large portion of the lung is involved, when the lesions are sufficiently extensive and deep-seated to diminish in a marked degree the surfaces available for respiratory functions, this condition outweighs everything else, and it *makes very little difference whether they are uni- or bilateral.* In cases of this kind, residence in high altitudes becomes impossible, because the area of hematosis being too restricted oxygenation of the blood would be inadequate to the wants of the organism, and permanent dyspnea would be the necessary result.

Let it be understood that the *extent* of the lesions is far more important than *their degree.* Thus a cavity does not by any means constitute a contra-indication *per se;* everything depends on their number and their dimensions; that is to say, on the more or less pronounced reduction in size of the area of hematosis.

Besides, it is of importance to notice that stationary, circumscribed cavities, without peripheral inflammation, are favorably affected by the climate of high altitudes; under such conditions, indeed, the expansion of the healthy portion of the lungs, and the tendency to desiccation due to the rarefied air, may powerfully contribute to the occlusion and cicatrization of the eroded parts.

A further contra-indication is found in the so-called *consumptive stage* of the malady; whether this stage sets in early or late is a matter of little importance, as it always, and under all circumstances, is prohibitive of residence in high altitudes. But we must be careful not to mistake febrile phenomena for consumptive stage. The constitutional deterioration in its totality, as well as the tendency to marasmus, ought to be taken into account, and not the mere manifestation of fever. Finally, it should be remembered that all laryngeal complications, in a state of ulceration, ulcerating enteritis, and any kind of nephritis, constitute an absolute contra-indication to high-altitude climato-therapy.

In recapitulation we should state that high-altitude resorts are suitable only for those patients with sluggish or indifferent reaction, where the disease is of *a chronic nature,* and has developed without marked or frequent acute periods, the lesions being circumscribed, and where there is no sign of a serious complication involving the heart, the big vessels, the larynx, the intestine and the kidneys, nor of the patient's approaching the consumptive stage.

Under such well-defined conditions one will not be disappointed in this method of treatment, inasmuch as it is greatly superior to any other in respect to curative powers.

Now it is certainly not sufficient to show what are the indications and contra-indications of high altitudes as a remedial agent. Rules must be laid down as to how to use them, for on this, and on this solely, success will depend.

The residence ought to be as prolonged as possible, either at the same resort or others of the same altitude. There can be no question of summer and winter resorts, because, as stated above, the main thing we have to consider is the influence of rarefied air and the totality of the special effects thereof.

Confinement indoor should be avoided in the largest possible measure. The *remedy is slow* in *its action, but unfailing* whenever used in clearly stated indications, and as such its use ought never to be suspended as long as it is found to be attended with beneficial effects.

The ideal method of using high climates is fixed residence in these regions, starting during the fine season and continued until complete recovery, or until all improvement has definitely ceased.

An interruption of six weeks may be granted at the period of the melting of the snow and of the atmospherical disturbances that are, as a rule, associated with the vernal equinox.

No doubt that oftentimes it will be impossible to adhere to the ideal treatment, but, if compromises must be

agreed to, the physician should never go so far as to permit concessions, which would jeopardize the whole success; if the patient cannot be benefited in a satisfactory way, it will be better, at least for the physician's reputation, to give up entirely the treatment than to take only half measures.

The *two fundamental rules* may be laid down as follows:

Acclimatization in spring or summer, always before the autumnal equinox of September, and *prolonged residence.*

The reasons for the first rule are self-evident; the acclimatization, that is, the habituation to the rarefied air and to the lowered degree of temperature, is certainly more easily and quickly accomplished in summer, when the conditions to which the patient is unaccustomed, are, so to speak, dissociated, so that he is not troubled with the low temperature, and when winter comes he is already hardened to the conditions of atmospheric pressure and, consequently, more able to face the cold season without confinement or risk, inasmuch as in those mountain climates the thermometer only step by step descends to the lowest point. In this manner the salutary effect of the high-altitude resort, and its climate, has full and uninterrupted sway, without exposing to any surprises dangerous to the organism.

The rule demanding prolonged sojourn is still more inflexible. Wouldn't it be nonsensical, indeed, to suppress or interrupt the beneficial effects of a good remedy on account of a change in the weather? It is a bad method which consists in limiting the use of high altitudes to the winter season, and in replacing them during the remainder of the year by a residence in the low lands, whether city or country. Such a practice is dangerous, besides, because it imposes upon the organism a premature change and too rapid successions of atmospherical conditions, radically different.

It should be, however, well understood that the severity of the cold nights in these mountain resorts is not the active principle in the treatment, though it seems there are persons who imagine that such is the case.

For patients who have never before been away from the plains it is always best to break the journey by one or two temporary sojourns at successively increasing heights, and this precaution becomes a necessity when the departure for the altitude resorts is delayed until the end of the autumn, or even the beginning of winter.

Much has been said and written, asserted and discussed, in relation to *crowding* together of consumptives in hospitals, sanitariums, altitude resorts, etc. It has been claimed that health resorts and establishments, designed for residence in common of consumptive patients, are dangerous. But framed in these general terms, the accusation can hardly be sustained by argument. We must needs draw the distinction: In the *first place,* it is quite evident that persons who have passed the inroads of the first stage of consumption, and where the tubercle bacillus has already found the favorable conditions to its settlement and growth, it is evident, we say, that such persons have but little to fear from the bacillus of their infected neighbors.

Secondly, persons in perfect health, in whom the organic resistance is unimpaired, run no risk of infective absorption of Koch's bacilli. Moreover, the chances of absorbing bacilli are reduced to a minimum in the modern establishments of high-altitude resorts, by the systematic use of the most approved and best completed measures of disinfection.

In *the third place,* debilitated and sickly persons, in whom the organic resistance is enfeebled, as well as patients affected with non-tubercular, broncho-pulmonary complaints, ought to be most rigorously excluded from such establishments where phthisical patients are received; they would, no doubt, offer the most favorable fostering grounds for the bacillus tuberculosis.

High-altitude resorts may be established at elevations varying from 1,500 to 6,300 feet above the level of the sea.

The treatment by elevated stations is not to be mistaken for the systematic treatment by long exposure to the air; there is an enormous difference, as far as the remedial principle is involved. It is a matter of fact that in high-altitude resorts exposure to the air is applied just as well as in lower resorts, but the former are provided with that specific, the *rarefied* air, which belongs to them alone, and which makes them superior *to all others, because there is no substitution or adulation possible, and the powerful agent is entirely independent of the physician.*

THE NEW TREATMENT OF CANCER.*

BY FRANK O. WEBBER, M.D., MEMBER OF THE MASS. MEDICAL SOCIETY, BOSTON.

I DESIRE to bring to your attention a report of a few cases of malignant diseases treated by the method employed by the originator. These cases cover a period of three years; during that time a large number of cases have been treated under the personal attention of the originator and under my observation since May, 1899, at my offices, 543 Boylston street, Boston, and I extend a cordial invitation to any physician to visit me and watch the progress of a series of cases.

I wish to call attention to the following facts:

First, the cases treated and reported herewith were without question malignant growths, the diagnosis having been confirmed either by the microscope or by the fact of one or more recurrences after operations by skilful surgeons. Fully 90 per cent. were regarded as inoperable, and incurable by any other known method.

Second, I claim for this treatment that it is absolutely unique in this fact, that it produces a restitution of tissue; that is, tissue involved by cancer cells becomes transformed into normal tissue. This is shown particularly in cases of recurrent carcinoma of the breast where cicatricial tissue has become unhealthy, and after this treatment it takes on a healthy normal skin appearance. This I claim is unprecedented in the history of malignant diseases.

Third, a mistaken idea has perhaps been formed that this treatment will cure or relieve in a great degree all kinds of cases; this is erroneous. I believe the experience of physicians will corroborate the statement that there has never been and never will be a cure-all for any disease. Cures in the case of cancer can be expected only when the disease is in its primary state and the system in the most favorable condition. But any case would offer a favorable prognosis as to prolongation of life and palliation of suffering, if there were a reasonable degree of vitality remaining to the system. Incurable and inoperable cases in the light of modern science are not incompatible with the idea of great relief and a longer lease of life than by any other known method. The best results have been obtained, first, in primary cases of little extent and in recurrent cases after surgical interference, when the disease first mani-

* Read before the Cambridge Medical Improvement Society.

fests its recurrence. A singular fact concerning the treatment as employed by Dr. Alexander and myself is that a majority of the cases we have seen have been those in which the recurrence had been extensive, the involvement of neighboring glands supreme, and cases of open suppurating surfaces.

In the demonstrations that I have made in Boston I have presented for examination and criticism a series of cases embracing epithelioma, carcinoma and sarcoma, which were practically incurable and inoperable when they came under our care. With these cases as far as possible I present a detailed description and history of the case, together with microscopic examination, hospital records and physicians' reports. From these proofs I believe it reasonable to suppose that we are using a remedial agent that certainly arrests development of cancer tissue, without pain or suffering or depression of the system, but rather with a general and constant improvement.

We have acted upon the theory that a cancer germ exists; that a micro-organism is the true cause of cancer. However great may be the difference of opinion among scientists regarding the ultimate cause of cancer, I think it is an established fact that there must be a favorable soil for its development. I believe that this soil may be inherited; that is, a cancerous discrasia, or it may be acquired by traumatisms, its reproduction being in scars, fistulous tracts and syphilitic lesions. The vital question, as it appears to me, Can we change this state of affairs and bring the system into a condition to resist these abnormal developments.

Becoming convinced of this basic truth, experiments were made, hoping to influence the circulation in such a manner, and to place the system so completely under the influence of the remedy, as to render the soil unfertile for further development of these micro-organisms, and thus arrest their progress without constitutional disturbance. After five years of extensive experiments the results are very encouraging, and give to us positive proof that a treatment tending to a curative result has been obtained. Demonstrations have been made that settle the question beyond any doubt of the power of this remedy to arrest malignant cell growth, in some cases to apparently annihilate it, and where this is done to produce a restitution of tissue in place of the diseased or scar tissue.

Surgery is of great aid to success in the use of this treatment. In a case of cancer of the breast, where an immense amount of tissue is involved, and particularly in case of suppuration, removal by the knife relieves the system from a source of contagion and gives an opportunity to present a relief that will be much hampered by the constant irritation and absorptive action of the original disease.

This treatment is a distinct aid to modern surgery, and surgeons will all recognize the fact that after an operation the chances of recurrence are large, with a grave prognosis, and in this class of cases the results of the "Alexander Method" prove a great field for the remedy. In cases where the nodules do reappear they are held in abeyance by this treatment, and therefore quicker and better results are expected if the bulk of the diseased material is wiped out. There has been much difficulty in contending with a great mass of diseased tissue, and good results have followed the enucleation of the principal mass. All surgeons expect recurrence; disguise it we cannot, yet many surgeons feel that when a case involves a considerable area, malignant growth is seemingly stimulated by the disturbance of surgical procedure, and we advise after such operations, either radical, or simply palliative, that the treatment be used to saturation, believing that the chances of recurrence are thereby greatly lessened.

The fluid which forms the basis of the "Alexander Treatment" is a new solution derived from a union of hydrocarbons and dimethyl ketone, to which are added essential oils, forming a chemical solution represented by the following formula: $C_{27}H_{27}O_2$. The fluid is clear, almost colorless, of a strong aromatic odor, insoluble in water, soluble in alcohol. Dimethyl ketone, which enters largely into the composition of this fluid, is of the creosote group, and is the acetone of chemistry; therefore debars from treatment cases of a diabetic nature, on account of the presence of a plus of acetone in the blood of diabetics; this condition maintains in anasarcas, I think.

The manufacture of the fluid is a delicate process; being a vegetable product, it is difficult to obtain uniformity in the solution, which is absolutely necessary to success in its use. Even a slight deviation from the standard strength will change the character of the fluid and cause trouble in administering, such as inflammation, or even abscess, which never occurs if the elements are correctly balanced.

When properly made it is harmless, never producing more than a momentary sting, which is relieved by hot applications.

The cases that I present are selected because of their violent type, and I believe will be interesting if carefully examined.

CASE 1.

Mr. N. Age 65. Epithelioma of the lip. This was a recurrent case, treated in 1897. Had been under the care of Dr. Foster, of Concord, who had several times treated it by caustic. When the patient presented himself for treatment by the "Alexander Method" the whole lip was involved. The result in this case was very rapid. After a short time (eight weeks) of treatment complete restitution took place, the tissue of the lip filled in and the surface became smooth. He has remained in this condition since 1897 without further treatment.

CASE 2.

Mrs. H. Multiple sarcoma of the neck. Growth appeared about six years ago, gradually affecting the constitution, developing rapidly and involving many glands. Was operated upon five years ago at the Portland General Hospital by Dr. Morgan, assisted by Dr. Tollman. Physical condition such that only a part of diseased tissue was removed. Second operation in one month. Recurrence and third operation in three years. Admitted to the Alexander Sanatorium, February, 1900. The disease had reappeared with fifteen or twenty nodulous spots in the neck and the left breast. Result: Physical condition perfect. All traces of the disease in the breast are removed and the neck is entirely free with the exception of one small nodule.

CASE 3.

Mrs. F. Age 28. Occupation, office work. Cancerous tumor appeared in the right breast, June, 1894; grew slowly, and by December, 1896, was the size of an egg and very painful. In December, 1895, there were three smaller tumors that prior to that time had appeared, one after another, in the other breast. In December, 1896, they were the size of English walnuts and very painful. The case had all this time been un-

der other treatment with no beneficial results. General appearance cachectic, appetite poor, loss of flesh and strength. This case first treated December 27, 1896. A rapid improvement took place from the first. Treated until February, 1897, when there was little or no growth left. At the present time she is in good health. In July, six months after the treatment, was amined by Dr. H. H. Amsden, of Attleboro, and he made this report:

"I have examined Mrs. F. and find no cancerous nodules in the right breast, and only one or two very small ones in the left breast. There are no cancerous symptoms, such as pain, tenderness, or inflammation. Her general health is very good."

Her condition is now excellent.

CASE 4.

Mrs. H., aged 50. Recurrent carcinoma of the left breast. First discovered a bunch in the breast about twelve years ago. Gradually increased until the tissues sloughed and became an open sore six years ago. Then it rapidly involved the surrounding tissue, axillary and cervical glands. Early in the spring of 1896 a radical operation was performed by Dr. Horace Packard, of Boston, not with any anticipation of cure, but for relief from the odor, pain, etc. Full hospital records and microscopic examination on file at the Homeopathic Hospital. The patient was then placed under the Cooley toxine treatment. This was continued until the general health was greatly impaired, and there were signs of a rapid recurrence. The tissues around the scar were becoming unhealthy, nodules appearing over most of the surface, glands of the neck largely involved. In this condition the patient came under the "Alexander treatment" February, 1897. The improvement was gradual but constant, and after four months very slight disturbance was left. The wound having healed by granulations in three large places, there was extensive cicatricial tissue which rapidly improved until there was complete restitution of diseased surfaces. An open sore between the upper and lower scar healed perfectly. Great improvement in general health and restoration of muscular action, so that she obtained the use of the arm. At the demonstration she was examined by the physicians present; the anatomical contour of the neck is restored (the size having been reduced 2¾ inches) and she was pronounced to be in perfect condition, restitution of tissue in the breast having taken place. This case presented to the Society May 27th for inspection.

CASE 5.

Mrs. M. Patient of Dr. Bradford Allen, of Nashua, N. H. Breast was removed in 1895 by Dr. Allen after consultation with Dr. M. H. Richardson. Specimen examined and following report:

It is a carcinoma with some tendency to adeomatous type. It is malignant, diffused, infiltrating the surrounding tissue. (Signed)

W. T. COUNCILMAN.

The disease returned in three years. Complete involvement of the scar, surrounding tissues and glands under the arm when admitted to the sanatorium. Was sent to the sanatorium by Dr. Allen, of Nashua, N. H. The scar was very unhealthy the entire length; numerous nodules had appeared from the axilla to the lowest part of the scar. The surface had the appearance of very early breaking down. This case is presented as showing a perfect result. Dr. Allen has recently examined the case and says, "Perfect restitution of tissue has taken place. There is now no soreness, tenderness or pain. Physical health is perfect."

CASE 6.

The history is copied from the Rhode Island Hospital records, October 31, 1894. Mrs. M., aged 52. Carcinoma of the breast and had articular rheumatism; other than this has been fairly well. Two years ago noticed a small lump in the left breast; gradually increased in size and about two weeks ago became rather painful. Examination, breast little increased in size, hard and nodular in places, the skin in various places firmly attached to underlying tissues. November 1st operation by Dr. Hersey. Incision from the insertion of the pectoralis muscle to the left border of sternum at the junction of sixth rib. No glands found in axilla, but glands removed from the breast. Discharged November 28th, improved. December 20, 1897, operation, Dr. Hersey, for recurrence. Pectoralis muscle entirely removed and ribs laid bare. Apparently all diseased tissue removed. When she came under our treatment in 1898 disease had reappeared in the scar tissue for its whole extent, also glandular involvement of the neck. Scar was scabby, tissue was broken down and discharging. When presented for inspection and criticism on April 17, 1900, she was pronounced perfectly well.

CASE 7.

Mrs. H. First discovered a growth in the abdomen in August, 1899, occasioning disturbance of the bowels, cessation of menstruation, and pressure generally. Was examined by Dr. A. H. Tuttle, of Cambridge, on the 3d of November; operation on the 5th. Dr. Tuttle reported she had an infiltrated growth which had affected the region of the pelvis in the neighborhood of both ovaries, more particularly the right side, and the tissues back of the peritoneal lining of the pelvis. This extended upward some distance beyond the brim of the pelvis in the rear. The tissues were intimately associated with this growth on its posterior surface and firmly fixed in a posterior position. The broad ligament on the right side also involved and the region at the head of the colon. The tissues along the track of both ureters were apparently affected. The growth was of a devious nature, without sharp limitations in many places along the mesentery, making finger-like projections. The growth in its broad sense is one of cancer, but may be of the variety termed sarcoma. Dr. Tuttle decided that it could not be removed, and in his letter to the family stated that the patient could live but a short time. Two months later, in a very weak and exhausted condition, weighing 125 pounds (average weight being 145 pounds), the patient was taken to the sanatorium. Then the abdomen was in a state of inflammation, menstruation had been suspended since September, 1898, and a fetid discharge issued from the vagina. In seven weeks this discharge entirely stopped, the bowels were moving naturally, and appeared more normal in condition and menstruation returned. The patient left the sanatorium in May, 1899, and has remained in excellent health since that time, weighing now 176 pounds, and is a vigorous, active woman, with no trace of her former disease. She was specially examined by a committee of physicians at the demonstration.

CASE 8.

Mr. ——. Family history fair. In summer of 1898, after injury to testicle, and upon consultation with family physician was sent to Massachusetts General Hospital, where the diagnosis of sarcoma was made. In

March, 1899, the gland was removed by Dr. A. T. Cabot. The wound healed well, but was followed by metastasis into omentum, when he was told that no further surgical aid could be rendered. At the earnest solicitation, however, of one of the house officers, he was placed under the Cooley toxine, as an experiment, which was continued carefully for three months, when he was informed that neither medicine nor surgery could do anything further for him, and was sent home. In August he was taken to the Alexander sanatorium as a last resort; then the disease was easily discerned by the eye, occupying a large portion of the left hypochondrium, and evidently involving the spleen. He was at once placed upon the "Alexander treatment." The improvement was slow but certain. Although scarcely able to endure being carried to the sanatorium, after two months of treatment his appetite was good, his strength and weight increasing and two-mile walks were daily taken for exercise. During the winter he was able to exercise still more, shovelling snow for recreation, and later in the winter he was discharged from the sanatorium, presenting absolutely no symptoms or trace of his disease, writing us since that nothing can be found of his disease by the most careful examination.

CASE 9.

Mrs. B. Recurrent carcinoma of the breast. This case was shown at our April demonstration for the purpose of explaining the treatment, and also to present a typical case of recurrent carcinoma of the breast showing rapid improvement. This case was treated by the escharotic method. The wound healed rapidly, with a dense purple line 4¾ inches in length by nearly half an inch in width. In about three months the disease recurred all along the line of this raised scar, and when it was presented for treatment at our office, February 1, 1900, one year from the operation, the scar tissue surrounding this line was firm, hard, and nodular; the nodule above the scar being raised considerably from the surface and deep-seated, very vascular, and of rapid growth. In two months' treatment this nodule disappeared; the dense purple scar line has paled very perceptibly; the white scar tissue surrounding this line has become softened; the protruding nodules above the scar are not half their former size; the circulation is being restored to the whole of the cicatricial tissue, and the patient has increased in strength, flesh, and in appearance from the start. She is still under treatment and is presented as showing progress.

FUNCTIONAL ALBUMINURIA.

BY J. HOWE ADAMS, M.D., PHILADELPHIA.

CONSIDERABLE confusion exists in many quarters as to limitation of the term dietetic albuminuria, its symptoms, its pathology, and its treatment. Albuminuria due to malassimilation is frequently difficult to distinguish from the dietetic form, while other forms of albuminuria, such as that originating in excessive uric-acid formation, frequently confuse the clinical observer.

In true dietetic albuminuria, the albumin is found in the urine only when certain kinds of food are ingested, being taken as a rule in immoderate amounts, such as eggs, cheese, or pastry. Consequently, it is not constantly present, but occurs at special periods, such as after breakfast or a noonday meal. It can only follow the taking of food and, as a rule, it appears very promptly; it is unattended by any other signs of disease, tube casts being totally lacking. It is a very important factor in the diagnosis to remember that albumin is never found in the urine *before* breakfast, and there is lacking all signs of disorder in the nervous system, as is common in other forms of kidney trouble; the urine shows a high specific gravity; in fact, many observers claim that this condition is invariable in these cases. In fact, the presence of high specific gravity in any urine is good presumptive evidence that it is not from a case of Bright's disease, except in very acute cases or in those advanced cases where there is a diminution in the solids; but it is more than counterbalanced by the decrease in water, which increases the specific gravity. It is a singular fact that very frequently high specific gravity is associated with what may be called harmless albuminuria.

The absence of albumin in the early morning urine in dietetic albumin becomes a matter of great importance in many instances. Dr. Pavy, of London, states a case occurring in his practice, when a young lad seeking a position in the English civil service was rejected on the ground of the presence of albumin in the urine; his medical adviser thought of the possibility of dietetic albuminuria, and found that his urine passed on rising was perfectly normal in its constituents. This statement applies in this country with great force to candidates for life insurance.

The albumin of severe exercise differs from the dietetic form, in the fact that it occurs only after strenuous excitation; there is an absence of all other symptoms as regards the digestive state and the nervous system. It does not produce albumin in a distinctive or striking manner, and as soon as the strain is over the abnormal ingredient at once disappears.

It is more difficult to distinguish between dietetic albuminuria and that form due to malassimilation. In that form due to excessive uric-acid formation the symptoms are about as follows: The patient suffers from indisposition to exertion, either mental or physical; much depressed about his condition, and frequently annoyed by an irritable bladder; albumin is found in the urine, frequently being most marked in the afternoon evacuations; occasionally a few epithelial casts may be found; the urine is acid, with a specific gravity rarely below 1022, and deposits often quantities of "brick dust." This form of albuminuria may be so marked as to be confused with the ordinary Bright's disease, especially when they exhibit some body waste; indisposition to exertion, either mental or physical; fatigue easily induced, with headache and vertigo as an occasional symptom. But the hypertrophies and other cardiac lesions of Bright's disease are conspicuously absent; there is no dropsy or eye lesions, and the actual character of the urine is most significant. This is the point at which to establish a differential diagnosis; first of all, there is the high specific gravity in a urine that is about normal in amount, or a little scantier than normal. The specific gravity generally ranges between 1022 and 1030, but it has persisted at a higher figure. The urine, on standing, deposits urates, even uric acid, and frequently mucus. In the deposit, in place of the urates, we often find crystals of the oxalate of calcium. The uric acid does not necessarily show itself in urates. It is best to determine its presence chemically. The total solids are increased. The salts in the urine are in normal proportion or vary but little. At times the chlorides are increased, and not diminished, as they are in contracting kidney. The phosphates are normal or increased; urea is not deficient.

Now, as to the amount of albumin; in these cases of uric acid excess, we find the amount generally small, but it varies with the time of day. It is generally more frequent after a breakfast, and it is at times absent, especially in the evening urine. But here, as in other cases of so-called intermittent albuminuria, there is this fallacy; the albumin is not really absent, but only greatly diminished. A fine test, such as the use of acetic acid to acidulate the urine, and then the use of Tanret's test, may bring it out; casts are scanty or absent; in character, they are hyaline or epithelial, rarely granular, never fatty.

The great trouble in diagnosis of these cases of uric-acid albuminuria is from cases of contracted kidney, with obscure beginnings, where the amount of albumin is extremely small and at first intermittent. But even here we have the low specific gravity of the urine of contracting kidney to guide us, and the crippled organ does not pass off abundantly urea, urates, or oxalates; with contracted kidney once established, there is no trouble; the heart symptoms and the retinal changes are too significant.

The pathological condition which gives rise to the albuminuria of uric acid and of oxaluria is essentially a congestion of the kidney, with slight local inflammatory changes in the vascular cortex from the irritating effects of recently increased amounts of ill-formed or broken-down tissue in the form of urates, urea, or these imperfectly oxidized oxylates. In other terms, the kidneys are not the primary cause of the trouble, but simply the kidneys suffer because the are compelled to throw off irritating waste products. Anything that lowers vitality and disturbs the nervous system may increase the faculty of assimilation, and with it the irritation and congestion which produce the albuminuria.

The question whether this variety of albuminuria passes into true organic affection of the kidneys is of serious importance. It is possible, of course, but considering the force of the irritating agent, it is far rarer in occurrence than would be supposed at first thought. When this does happen, it is brought about by the constant irritation leading to slow fibroid changes and gradually developing intestitial nephritis.

When we reach the important question of treatment of these forms of albuminuria we must bear in mind that we are dealing with a special disease; one in which mal-assimilation is the main element, and the kidney affection only a conspicuous expression. The treatment must not be, therefore, purely that of Bright's disease, as we meet it commonly, but largely that of the underlying state, a condition with which we are chiefly familiar, as lithemia or as oxaluria. The lines of treatment are, it is true, largely parallel. Thus, it is just as essential in this form of albuminuria as in ordinary forms of Bright's disease to lessen the work of the kidneys by calling the various emunctories into play. In fact, it is more essential, for the kidneys have not only their usual work, but largely more than their share of work thrown on them, and thus extra work leads to damage. Their labor can be much lessened, and the blood condition and the character of the excretions altered by close attention to diet, which is, in the main, also the treatment of Bright's disease, although it is stricter as regards the ordinary carbohydrates, and, on the other hand, does not insist so much on milk.

Vegetables, especially the green vegetables and fruits, are freely allowed; tea, coffee, and cocoa, are sanctioned if sweetened but slightly; so are small quantities of oatmeal, buckwheat, corn cakes, rice, bread and butter; also, oysters and fish. The white meat of poultry and game can be eaten in moderation, but the meats containing much nitrogen, such as mutton and beef, are to be avoided. I find, however, that where the patient indulges in considerable exercise, especially in young men, that meats may be eaten in careful amounts, without damage. Milk is not especially useful in these cases; in fact, there are a number of cases on record where a strict vegetable diet effected permanent cures after an exclusive milk diet had left the urine still albuminous. Eggs need not be forbidden, but should be given in moderation, and the yellow portion alone eaten. It is well to be strict as to sugars, for most commonly they aggravate the symptoms; hence, beets and rhubarb should be forbidden; salt, however, should be freely taken. It is important to keep the kidneys flushed. Hence, the free use of pure water, plain or aerated, and the mild diuretic waters, such as Poland, Saratoga Vichy, or Vichy, is always of service. Drinking hot water at bedtime often has a most happy diuretic effect, which makes it doubly serviceable, for uric acid is largely excreted during the morning hours. Alcoholic drinks should be avoided, or if used, restricted to light non-acid wines. No beer should be used.

The use of baths, not too cold, followed by systematic skin friction, is indicated; and the value of exercise in the open air is excellently shown in many cases. Cold douches to the spine are recommended by some observers, especially in dietetic albuminuria.

Among medicines, laxatives are very important; Rochelle salt, cream of tartar, phosphate of sodium. Mercury before the saline is often of excellent effect. So is iron, especially in the shape of the tartrate of iron and potassium. Nitro-muriatic acid in oxaluria is a standby, and is recommended in uric-acid cases. The heart must not be forgotten, for the poorly oxidized elements circulating in the blood, and the general malnutrition and the lower nerve force distend the heart, and the irregularity it exhibits may have to be met by digitalis or strychnine. The inhalation of oxygen has been suggested, but its therapeutic value has not been settled.

As to prognosis, it is, as a rule, favorable when we can make the treatment effective. Thus, we have a form of albuminuria which has been rescued from the list of Bright's disease. It teaches us that in the examination of urine it is not sufficient to make simply the ordinary tests for albumin, but the investigation must be pushed further. If the urine is examined in a routine way the patient is often condemned by the apparent condition of his urine when it is wholly unjustified.

—Carbolic acid has been officially declared a poison in Great Britain, and its purchase is now hedged about with the same formalities, meant to be deterrent, as that of other deadly drugs. Special provision has, however, been made to facilitate its sale for agricultural purposes.

—According to L. Azouay, when a child or youth retains his chubbiness, especially of the face, at an age when other children or youths have lost theirs, it is an indication that the organism is correspondingly backward in its development, and should arouse apprehension in respect to the development of the sexual organs and the psychic faculties. Such young persons should not be forced in school or work, but should be kept in the country and every means taken to favor their physical development.

THE TREATMENT OF PULMONARY TUBERCULOSIS.

BY DR. C. WILLIAMS, PHILADELPHIA.

THE three aims of any physician in his treatment of any disease are first, to cure the disease; second, to prolong the life of the patient; and third, to promote his comfort. Where the cure of the disease is impossible, every effort should be made toward making the patient comfortable. Tuberculosis is curable, but it cannot be cured if the physician considers the case doomed from the outset and is neglectful in the minutiæ of the daily life of his patient. There is no disease in which the bigness of the little things is more marked than in pulmonary tuberculosis, and to effect a cure, every little detail must be adjusted and strict individualization must be enforced. The relative importance of drugs and that of other methods of treatment should be considered, and the latter should stand first, as if the physician depends entirely upon the administration of drugs to effect a cure he will neglect other and most important points in the treatment. Drugs are necessary, but are only secondary in treating the disease.

Pulmonary tuberculosis is a slowly progressive and a degenerative disease, although it does exhibit certain rapid types, chief of which is acute miliary tuberculosis, but as this in ninety-nine cases out of a hundred is a fatal disease, we will not consider it here. Another extreme type is phthisis florida, or galloping consumption. This form has its beginning in the patient's catching cold, and this gives rise to a cough which hangs on for two or three months, when symptoms such as hectic fever, night sweats, wasting and profuse expectoration develop. A physical examination reveals extensive consolidation over one lung, and perhaps cavity formation and softening in the other. This goes on for from a few weeks to eighteen months, being marked throughout by such active phenomena as fever, wasting, etc., when death ends it all.

The patient with fibroid phthisis will be sick for years witout thinking that anything is the matter with him but chronic bronchitis. This is the usual history. Finally, decided lesions develop in his lungs, so that the physician who makes the physical examination can't help but find them. The patient recovers, perhaps, and goes about his business, living anywhere from twenty to forty years, when he dies of some intercurrent disease, in all probability pneumonia.

Between these two types, that is, between phthisis florida and fibroid phthisis there are various possibilities of the disease. The former type runs such a rapid course on account of the lack of resistance in the individual, causing an early breaking down of tissue. The tubercle bacillus is only one of the lesions operating in pulmonary tuberculosis.

The term "fibroid phthisis" is a misnomer, as it should be called "fibroid tuberculosis." In this type the tissues are resistant and the process is held in check by fibrous tissue which forms around the tuberculous foci and enables the patient to live a long time.

There are certain types of cases which are intermittently non-resistant, in which a limited softening occurs and the patient is about to develop phthisis florida, when suddenly he gets well, remaining so for three or four years, when he has a recurrence of the disease. A man may live from ten to fifteen years in this condition.

The average duration of pulmonary tuberculosis is six years. The usual history of this disease is that the patient gets a cough, for which he takes some patent medicine and apparently gets well, but unless the cure has endured for four years, the man is not cured.

The hygienic treatment of pulmonary tuberculosis consists chiefly in giving him air, and the best air is that to be obtained out of doors. Keep him out of doors as much as possible, or, if the weather is bad, get him to wrap up warmly and pace up and down in a room with the windows open. The patient should learn how to breathe and expand his chest, and to do this give him compressed air of from one-quarter to one-half pound pressure to the square inch. Compressed air is contraindicated when there are extensive cavities or softening, when the temperature is above 100° F.; or when hemorrhage is profuse. It can be given, however, in a dry condition of the lungs. Sun-light is very necessary, and the patient should be directed to keep in the sun all he can, or we may use it artificially by concentrating the sunlight or electric light on him. If the weather won't permit of his being out of doors, he should sit in a chair so that the sunlight falls through the window on him. The food of a tuberculous patient should be chiefly nitrogenous, and should rather be given at frequent intervals than in extensive quantities, although these patients can often consume large quantities of food. Give him three regular meals a day, and at intervals between meals he can sip hot milk or soup. On going to bed the patient may take a cup of hot milk or some wine of coca, and something of this sort should be given him should he awake in the night. He should be encouraged to drink large quantities of water and to take a sponge bath or a cold plunge every morning. This can be done by starting him in on a tepid bath and gradually lowering the temperature each day until he can stand cold water. Four main things to be remembered, then, in the treatment of a case of pulmonary tuberculosis are: Good food, pure water, fresh air, and sunlight. Keep the patient's bowels open by mild laxatives, if necessary. The drugs to be administered are iodine and creosote, the former only in the early stage. It may be given as iodoform, starting with one-half grain doses three times a day in balsam of Peru. When we have a breaking down of tissue give creosote, as it is an antiseptic; in the form of the carbonate if the patient can afford it, otherwise give Morson's creosote in milk, two hours after meals. Strychnine is valuable as a general nerve tonic, and if there is an associated anæmia, give iodide of arsenic. Digitalis is useful when the heart is weak. Also nitro-glycerine in early cases with a small, thready pulse. The object of the drug treatment is the improvement of the patient's nutrition, and upon his digestive power often rests his ability to overcome the disease. There is no specific for this disease and probably never will be. Tuberculin has killed more patients than it has saved. If it is possible, send the patient away, but do not send every case to the same climate. An ocean voyage for three months, depending upon the season of the year, will be found most beneficial.

—Instead of a brush, Meriel, in the *Journal de Médecine de Paris*, July 15, recommends a piece of pumice stone, boiled and kept in an antiseptic, as the most effective instrument with which to render the surgeon's hands aseptic, and "give him a new skin." Tests on dogs and rabbits whose intestines and peritoneum were handled after the hands had been rubbed with pumice stone in soapy water demonstrated the absence of pathogenic germs.

BIOMETRY.*

A Method of Measuring the Vibrations of Human Vitality.

BY DR. HIPPOLYTE BARADUC,

of the French Academy of Medicine.

AT the Scientific Congress held during the last Exposition a great number of physicians and psychologists manifested the keenest interest in Dr. Baraduc's wonderful discovery of registering and measuring the vibrations of human vitality. Some of these savants went so far as to claim that they afforded us the means of demonstrating scientifically the existence of a soul in man; others were of the opinion that his biometer would prove to the human mind what the Röentgen rays have proved for the human body; others again, that in time it would be a valuable aid in the diagnosis of nervous diseases; but all were unanimous in their appreciation of the attempt on the part of a savant to measure and define our vital force. Instead of entering into a more or less justified criticism of Dr. Baraduc's interesting experiments, we publish his own explicit exposé of the subject, which, in view of the high rank occupied by the distinguished savant, cannot fail to interest our readers:

To the observer, experimenter and Occidental believer, man, after a minute analysis, appears as a compound being and under a triple aspect, viz., of matter, sensible force, and spirituality, or, in other words, as pure spirit (individual consciousness), sensible soul, and physical body.

I do not care to discuss in this article the spiritual part of our being, which constitutes our pre-generic unity, the permanent ego; but shall restrict myself exclusively to the discussion of the sensible vital force, the vibratory aspect of which can be physically demonstrated by means of my biometer.

From my experiments during the last nine years I have become convinced that human vitality manifests itself in two distinct forms, *i. e.*, (1) the superior, or mental vitality, (2) the inferior, or animal vitality.

My experiments made on more than two thousand persons prove beyond doubt that between the spirit considered as the permanent principle of our identity, but which so far has proved inaccessible to our Western scientific methods of investigation, and the material part which is amply knowable in its various modifications, there exists a real force, the human vitality, manifesting itself in a double polarization of its vibrations.

This double vibration can be easily measured and recorded by means of the hands, which thus testify to its existence.

The right hand, which is situated in the area of the physical vibrations, expresses the physical vitality, while the left hand, which is situated in the area of the psychic vibrations, expresses the psychic vitality of our being.

These two points of vitality pass alternatively into each other, forming what I may term the wheel of life. They create around each one of us an atmosphere of invisible vibrations which are made manifest by the movements of the needle of my apparatus when placed within the zone of their activity.

The external movements of this zone thus enable us to interpret our inner movements, the phenomena of the life within us.

II.

Man is a furnace of vibrations and currents of light invisible to the eye. He emits dark rays of his vitality which, to judge from their impressions upon a photographic plate, are altogether different from the solar rays or the electric waves. These vibrations of his vitality create around him an invisible, but for that not less real atmosphere which indicates exactly the state of his physical and mental health.

This fact explains the phenomena of moral contagion, due to the fusion of the atmospheres of two persons, and of the so-called "soul of the multitude," when a group of persons are animated by one and the same vibration. The radiating zone of one person may thus become the cause of pleasure or of pain, of a kind of poisoning to the vitality of another psychically impressive organism. There is a fluidic contact at distance, between two persons, a contact as real as that caused by the pressure of material bodies, and I can demonstrate this fact by my biometer and by impressions upon photographic plates.

By the same means we are also made to realize that normal life as manifesting in our personal unity consists of two kinds of vitality, two kinds of vibration which together form a complete circle. The observed biometric formulæ not only express the vibratory relations between either of our vitalities and the little known external forces of the universe, they also reveal the inner movements going on between the two poles of our humano-animality, between the man and the beast, of which every one of us is possessed. This duality of our nature gives rise to that inner conflict of which no thinking being is free, a conflict so well described by Horace when he says:

"I see the good, I approve it, but nevertheless I do the evil."

It is, in fact, inherent in man to be inspired by the purest radiations from above, but also to be powerfully actuated by the base instincts from below.

Free will stands between the aspirations of the soul and the cravings of the body; a strong will maintains a proper balance between the man and the animal.

The determining faculty of this double nature in man differentiates the human race, and marks with precision the place which it actually occupies in the hierarchy of creatures.

The biometer which I have designed enables us to ascertain and to measure the vibrations of our vita forlce, and to express in a formula the mathematical relation between the mental and physical states of our nature. Just as the thermometer gives the temperature of the body, so does the biometer measure the attractive and expansive rays of which the body is the center.

III.

The chief feature of my biometer consists in an annealed copper needle suspended by a single untwisted fiber of silk. It is hung in the center of a strong globe of glass or mica, from which the air has been expelled. Although isolated in this manner, the needle is attracted or repelled by the vibrations proceeding from a hand held near it. The influence of the vibrations is still felt by the needle even if a block of solid ice is placed between it and the hand. If the person be in a state of good physical health, gay and happy, the needle is repulsed by his expanding vitality, while in sickness, sadness and neurasthenia it is attracted by his contracting vitality. The movement of the needle, attracted or repelled through non-conductors of heat or electricity has been demonstrated by experiences upon thousands of persons.

Statistics gathered in the course of my numerous experiments establish the fact that the solar plexus is

* A translation from the French.

the center of animal vitality, the vibrations of which are manifested by the right hand; while the brain is the center of mental vibrations which are manifested by the left hand. A line running from the thyroid gland of the neck through the heart and the spleen marks the division between the two respective fields of vibration.

The relation between the right and the left vibration gives the biometric formula, *i. e.,* indicates a person's temperament.

There are seventeen types of formulæ expressing the relations between the cerebral and the gastro-abdominal divisions of the body.

IV.

The biometer, by the vibrations which it indicates, may serve as a valuable aid to the physician who uses electricity for curative purposes. It makes a diagnosis of our vibrations and controls the use of dynamic agents applied to the body. The means indicated, for instance by the formula Att./Att. (double attraction, *i. e., Franklinization*) are shown to be inapplicable by the formula Rep./Rep. (double repulsion).

If to man, viewed as an accumulator according to circumstances, proceedings of charging and discharging may at all be applied, it would be absolutely illogical to place a hyper-vibrating patient into a bath of tensive static electricity. In a nervous patient it is above all indispensable to re-establish the physical and psychical vibrations, so as to balance one by the other, and thus to re-establish the normal circle of vibrations (circula vitæ).

By the aid of the biometer, which measures the energy of the vital vibrations, and shows their state of contraction or expansion, I am enabled to indicate with precision that to certain patients methods of condensation, of electrization, must be applied; to others contrary methods of de-condensation, of dis-electrization. Those suffering of psychic neurosis, for instance, who should be dis-condensed, have usually the formulæ $\frac{R}{O}/\frac{L}{rep.}$ 10 or O/ att. 50. These formulæ must be transformed into one of equilibrium, viz.: $\frac{R}{att.}$ 5 = $\frac{L}{rep.}$ 5. Then the vibrations of the vegetative life become attractive and centripetal to the same extent as the vibrations of the *relative life* are expansive and centrifugal, and thus the equilibrium between two poles of both our physical (attractive) and psychic (expansive) vitalities is being re-established.

V

Phonographic Suggestion.—While the vibrations of our vitality are to some extent of a similar nature to electric waves, so that electricity may be used to discharge or recharge the human accumulator, they offer a certain aspect which differentiates them from all other modes of energy. Vital vibrations are dependent upon what we call psychic phenomena; that is to say, ideation, the imagination of our sub-conscious personality, as well as upon the will and consciousness of the real Ego, the conscious individual.

This subordination of our vitality to our will manifests itself in the modifications undergone under its influence by our physical and psychical vibrations, and these modifications may be verified by means of the biometer.

When using the biometer with subjects under the influence of hypnotic suggestion I have seen the vibratory formulæ vary from moment to moment, passing from gayety to sadness, from suffering to a state of health, from indifference to a state of passion, according to the nature of the suggestion. Hypnotic suggestion can, therefore, not be denied. It offers a powerful medical agent in cases of nervous ailments, hysteria and alcoholism. But in our epoch of scientific rigorism, experimental precision and mathematical control, it was interesting to know the intrinsic value of that complex act called suggestion by freeing it, for instance, from the human agency, *i. e.,* the personality of the hypnotizer. Could suggestion alone modify the vibrations of the subject?

I have proved by registering the vibrations of the hypnotizer and the subject that there is a common character in the vibrations of the two. I, therefore, tried to create a method of hypnotizing different from the practices in general use, a phonographic method, to estimate exactly the value of the thing suggested aside from the personality of the hypnotizer.

Seeing the good impression made by the phonograph on balanced minds, it occurred to me that it might have the best results on suggestionable brains. I used it as an instrument of education and mechanical suggestion in order to avoid the fatigue on the part of the hypnoizer to remove all apprehension from the subject and to make it possible to the otherwise occupied physician to have it used by his patient in his absence several times during the day.

This method of mechanical suggestion has the great advantage of putting in direct auditive contact the unbalanced automatism of the patient with an appropriate suggestion, formulated by the physician like any other prescription and taken in his absence in doses, and repeated until the required effect has been produced, like any simple drogue made "secundum artem."

I also claim in favor of this method a greater scientific precision, an exact mensuration and a more precise application with regard to the suggestive agent, though it does not invalidate the actual methods in use. Far from this it can only aid in propagating and popularizing the treatment by suggestion in all those cases where the physician cannot be present and the hypnotic sleep is not absolutely necessary for the success of the treatment. The use of phonographic suggestion reestablishes the normal personality of the patient by reestablishing in him the vital equilibrium expressed in the formula att. 5 = rep. 5.

VI.

In this age of phobias, neurasthenias and manias it is of primary importance to be able to register and control our own vibrations, to know precisely how we live, by knowing how we vibrate. We may look by this means for the cure of neurasthenia or the re-establishment of the normal course of the circle of life broken by the nervous ailment.

To resume: The method of registering the physical and psychical vibrations opens a new scientific field of research to the psychologist and specialist of nervous diseases. It reveals the vital force by registering its vibrations and its movements within us, and expresses the harmonious and sympathetic relations which exist between our personal and inner forces and the external forces of nature by which we are surrounded. This discovery is, therefore, calculated to interest all those who are nervous, impressionable, emotional, sensitive, nervous and psychic who vibrate either too much, too little, or not as they ought to.

All those acute sufferers in this neurasthenic age, whose whole life is only a forced vibration, should know that there is really a method of analyzing and estimating

the departures from the normal of their vibrations, whether they be caused by the instincts of animal life, the passions, or the excesses of imagination. When these vibrations are known and registered it is now possible to study their nature with a hitherto unknown scientific precision, to correct their evil tendencies, to control the favorable modifications occurring during the course of the treatment, and finally, by the application of electricity, suggestion and other appropriate means, to bring about a complete cure or equilibrium of the vital forces of the patient.

Kumyss as a Therapeutic Agent.—An experience of six years with kumyss (fermented mare's milk) in the treatment of various maladies, enables the author to draw the following interesting conclusions (*N. Y. Med. Journal*, Nov. 3, 1900): (1) In all cases of anemia (twenty-nine) and in the cases of neurasthenia and hysteria treated by him with kumyss he has observed improvement of the general condition as well as in all the symptoms. (2) He has observed aggravation of the pain in some cases of hepatic and renal colic after the use of kumyss. (3) Negative results were obtained in the cases of heart disease and in diseases of the vessels. As the result of the difficulty of the hearts action in consequence of the great quantities of liquid present in patients who take kumyss treatment there were symptoms of tachycardia, stenocardia, etc., in some instances. (4) Negative results were also obtained in cases of tuberculosis in which several organs were affected at the same time, in cases of acute pulmonary tuberculosis in young persons, and in cases of extensive chronic tuberculosis. (5) In early cases of tuberculosis very good results were obtained by the use of kumyss; all the symptoms were improved and the general health was greatly benefited. (6) The treatment with kumyss must be continued as long as possible. (7) The diseases in which kumyss is contraindicated are as follows: Atheroma and heart disease, abdominal plethora, rheumatism and gout, cerebral hyperemia, the last stages of phthisis, hepatic and renal colic.

Diagnosis of Neurasthenia.—The principal diagnostic symptoms of neurasthenia, according to Eskridge (*Phila. Med. Jour.*), are the following: Exhaustion without complete loss of power; insufficient reserve force for rapid recuperation from physical or mental exertion; intense self-consciousness and a habit of introspection. The patient is cognizant of the perverted function of every organ. Numerous subjective sensory disturbances, mental depression, undue emotional manifestations, irritability and insomnia are often present. There is pain and tenderness in the back, most intense in the lumbar region of traumatic cases, in the cervical region of non-traumatic. There is hyperesthesia and paresthesia; muscular weakness and fatigue, without paralysis of contracture, narrowing of the field of vision after exhaustion of any kind. Auditory hyperesthesia exists and the deep reflexes are increased, the pulse is accelerated by exercise, pressure over tender spots, exhaustion, irritation or excitement. Vasomotor disturbances and digestive derangements are common. As between neurasthenia and hysteria, in the former there are no paralysis, contracture, anesthesia or convulsions, all of which are common in hysteria. Neurasthenia develops gradually, hysteria quickly, especially after emotion or shock. In hysteria, too, we have the globus hystericus and clavus, and the symptoms change from day to day.

Sun Baths in the Treatment of Tuberculous Joints.—Millioz (*Thèse de Lyon*), unlike Finsen of Copenhagen, who uses the ultra-violet rays of the spectrum in the treatment of lupus, has employed all the rays of sunlight to act on tuberculous joints. He disapproves of the systematic fixation of the limb in which the tuberculous lesion is situated. The patient is placed on a suitable couch in the sunniest part of a garden or other open place, with the affected joint fully exposed to the rays of sunshine. To protect the head of the patient, some sort of sunshade may be improvised. If the upper limb is the seat of the disease the patient may preferably be allowed to walk about in the garden. The duration of the sun bath should be several hours a day. During the intervals the joint is covered with wool, and rather firmly bandaged. Sometimes after the first or second bath the joint becomes more painful, but this soon passes away in most cases; but if it should continue it may be necessary to intermit the treatment for several days. Rapid pigmentation of the skin by the sun's rays has been noticed to coincide with comparatively quick recovery. The joints are said to become smaller, the skin healthier-looking, the discharges, if such are present, less purulent, and the fistulæ close. Such results, however, may require months of treatment.

Painless Application of Arsenical Paste.—The application of arsenious acid paste for the removal of malignant growths has been much restricted by the severe pain produced during its escharotic action. The combinations with morphia and cocain have been of slight assistance in controlling the pain—the former on account of weak local action as an anesthetic, and the latter because of the temporary nature of the anesthesia. The following case, reported by William Perrin Nicholson in the *Atlanta Journal-Record of Medicine*, illustrates how satisfactorily this result was obtained by the use of orthoform.

White male, aged sixty, presented with a growth upon the right side of the head, projecting outward about to the length and size of a large hen's egg. The base of the tumor extended from just at the outer edge of the orbit to the other a short distance in front of the ear. The surface was covered with a dried scab, from under which blood oozed at the slightest touch. As the tissue seemed very friable a somewhat novel means of removal was employed. A thread of silkworm-gut was passed around the base, and by a rapid sawing motion the growth was quickly removed flush with the skin. After controlling the severe bleeding by pressure applied a short time, the raw surface was freely sprinkled with powdered orthoform. Then with a powder made of equal parts of arsenious acid and powdered gum acacia, orthoform was mixed without noting the proportions. This was made into a paste and applied to the cut surface and the patient given a few tablets of morphine to take when the pain became severe. Next day we returned and found the tablets unused, the patient having had no pain since the paste was applied. The result was perfect, the growth being entirely destroyed, and to this time, six months after its removal, he remains well.

As the anesthetic influence of orthoform lasts for many hours, it appears to be the ideal combination for such a purpose, and the case reported would seem to open up a wide field of usefulness for this agent.

—A correspondent of the *Medical Summary* says that acute rheumatism "can be cured; it can be aborted. Colchicin, grain $^1/_{250}$, is the remedy; one granule every two hours."

The Medical Times.

A MONTHLY JOURNAL

OF

Medicine, Surgery, and Collateral Sciences.

EDITORS:

EGBERT GUERNSEY, M.D., LL.D. ALFRED KIMBALL HILLS, M.D.

Communications should be addressed to the MEDICAL TIMES, 180 West Fifty ninth Street, Central Park South.
Published on the first of each month.

Changes of standing advertisements and communications in regard to that department, should be addressed to BENJ. LILLARD, Advertising Manager, 108 Fulton St., New York.

NEW YORK, MARCH, 1901.

"Ah, March! We know thou art kind-hearted, spite of ugly looks and threats, and out of sight art nursing April's violets."—H. H. JACKSON.

HYSTERIA AND CRIME.

THE recent attempt to kill Father Keller, a well-known Episcopal clergyman, by Mr. Barker, in New Jersey, on the ground that he had made an assault upon his wife more than a year ago, and the possibility, and even probability, that the assault existed only in the imagination of a hysterical woman, recalls to our memory similar cases which have resulted in a ruin of character in men who, in all probability, were perfectly innocent. Foremost in this class we recall the case of Bishop Onderdonk, of this diocese, more than fifty years ago. The Bishop was an old man, of unsullied reputation, sympathetic and paternal in his character, with warm friends and bitter theological enemies. And there is no enmity so bitter, no hate so relentless, as that found among the clergy. Physicians are bad enough, but the clergy take the palm. The Bishop was accused by the young wife of a clergyman with undue familiarity. They were on their way to a church, where the young clergyman was to be ordained. He sat on the front seat with the driver, while the wife sat in the back seat with the Bishop. On their arrival at their destination the wife told her husband that the Bishop put his arm around her and shocked her with his lascivious familiarity. Still the ordination went on, without objection of the candidate. A year after, in the midst of a theological dispute, the charge was brought, and hurled against the Bishop. The wife had been baptized by the Bishop, who had often fondled her on his knee in infancy and early childhood. The ride was a cold one, and the Bishop, with the kindness of a father, gathered a wrap around her, drawing her close to him to protect her from the cold. She had not brains enough to rightly interpret the good old Bishop, old enough to be her grandfather, and attributed as unholy a fatherly act. The result was, the Bishop was hurled from his high position, presumably on the verdict of a hysterical woman, but in reality was a martyr to partisan hate in the ranks of his own profession. At that time we were connected with *The Evening Mirror*, which was under the editorial supervision of General George P. Morris and N. P. Willis. An editorial comment on the case by Mr. Willis attracted marked attention of the public. Mr. Willis took the position that when a woman was assaulted, the fault was in a great measure her own, unless the man was insane from disease or drink, or the victim was under the influence of some narcotic. The clear, sharp look of a virtuous woman's eye, and her conduct at the time, would cry halt to the boldest libertine, and make him slip away like a whipped cur. A woman may be physically weak, but, clothed in virtue, she is armed with a spiritual power stronger than a coat of mail. In this, she is her own best protector.

We have no wish to pre-judge the case of Father Keller, brought almost to the point of death by the murderous attack of one who claimed to believe he was vindicating family honor. The question is one of veracity between a clergyman, loved and respected by all who knew him, and whose life, so far as is known, has been comparatively blameless, and a woman, whose story is so improbable, so unsupported by proof, as to create the supposition that she might have been under the influence of hysteria and sought to avenge herself for a fancied wrong.

The popular idea of hysteria is that, under its influence, a woman laughs, and cries, and screams, and throws herself about, without any physical or mental control. But the physician knows that the most dangerous form of hysteria is when there is no excitement at all, but a kind of insanity, if we may so call it, but which comes distinctly under this head, where a woman will tell, and really believe, stories which have not a particle of basis in truth. In this condition of mind she will feign paralysis, and not move from her bed for months or years. She will even mutilate herself and arrange her surroundings so as to leave the impression a crime has been committed. A careful scientific examination of these cases will, however, generally lead to detection.

A case is reported during the Second Empire, under Napoleon III., where the Duke de Grammont, the Premier of the empire, was arrested and tried for an assault on a young girl. The girl was absent from home some days. On her return she stated that a man, giving an accurate description of the Duke, in a country place, seized her and put her in a carriage, which, from description, was like that of the Duke's, and carried her to a villa, which corresponded to that occasionally occupied by him, and there accomplished his purpose. Her account was so minute that the Premier was arrested, and only cleared from the crime when it was shown by

medical testimony that no assault had been made. Testimony was brought at a later day to show where she had really passed her time.

Professor Cæsar Lombroso, a distinguished authority on criminal anthropology, in his discussion of "The Female Offender," says regarding hysterical offenders:

"Many women accuse their servants of theft, either to enjoy their disgrace and have them put into prison, or out of feminine vanity or hatred. The most common form of calumny is an accusation often brought against a public magistrate, or a father even, but more frequently still against a priest or doctor. Usually the accusation is so absurd that it cannot be believed; but often it succeeds, and the means adopted for making it consist almost always of letters, anonymous or otherwise."

Dr. Lombroso cites several instances in which priests were accused by women suffering from hysteria, describing the profound impression made by the statements of the accusing women and the trials of the accused.

Continuing his discussion, Dr. Lombroso says: "The feature, however, which distinguishes hysterical women from all others is the intensity of their mania for calumny and the success with which they apply it. The reason is simple. Women have less strength and less capacity than men for deeds of violence, and are consequently more inclined to crystallize their bad impulses into calumny. They profess and proclaim the false with the same tenacity as an honest person will affirm the true, especially as women, like children, are less impressed with the sense of truth and more easily disregard it.

"Moreover, when hysterical they are possessed by their own lie, which presents itself to their minds with a force of conviction greater than truth can bring; and they are subject, besides, to that species of exaltation which the hypnotized experience at every stage, and whence suggestion derives its overmastering force. Finally, as Schule says, 'they have such an unbridled fancy that truth and falsehood, facts and desires, are all one, all equally true to them, and they consequently often misrepresent in perfectly good faith.'"

The most frequent victims of hysterical women are the clergy and the physician, who are often accused of acts of which they are entirely innocent, the simple attention of kindness or necessary professional work, without a thought of evil, being misinterpreted through a purient or diseased imagination, and told from one to another, to the detriment of the reputation of the innocent victim. Cases of this form of hysteria are more common than is generally believed. It is a disease, and should be treated as such, not only in society, but in the court-rooms, where a man's character, or even life, may hang in the balance, and condemnation should only follow the most positive proof of guilt.

A Difficult Job.—A French colonel on being told that his new born child was a girl exclaimed: "I don't want her, *put her back.*"

SOUTH AFRICAN WAR.

DR. RYERSON, of Toronto, on his return from South Africa, where, as Commissioner of the Red Cross Society, with army headquarters, he received the personal thanks of Lord Roberts for efficient work, has given a very interesting account of the war, from a medical and surgical standpoint. Nearly a year ago, in an appeal to the public for aid to the sick and wounded, he stated that the sick, apart from the wounded, would be at least 17,000 men. The actual facts show that up to the 25th of July 100,000 men have passed through the hospitals from diseases alone, thus emphasizing the fact that in war the physician is more required than the surgeon.

The epidemic of enteric fever which raged in South Africa can be traced to the three months the army lay at Modder River. The soil of that place is of the lightest character. Having been trampled and pulverized by thousands of feet, it formed an impalpable powder. This, mixed with the excreta, was wafted in dense clouds into the men's tents, into their mouths, food, and drink. He observed that, in many cases, the latrines were but a very short distance from the wooden frames on which was hung the fresh meat for the men. The meat was uncovered by cloths and was often literally black with flies. The flies were everywhere, and nowhere were they thicker than in the hospital tents. Where men were unconscious the flies fed on the saliva, as in many cases sufficient mosquito-netting was unobtainable. The water was muddy and drawn from the Modder River, which may have been defiled by the Boers further up. Once started, it is easy to understand how large bodies of men thrown together become infected.

The camps contained from 500 to 30,000 men, in the ordinary position, close together, with nine or ten men in a tent. More than that, there is the fact of urination and defecation after dark. The men will not take the trouble to go one hundred or even fifty yards to the latrine, but urinate and defecate in the neighborhood of the tent. This is wafted into dust, and thus becomes mixed with the food. The circular dust storms were so violent that it was impossible to keep the dust out of the tents, and carried the infection to every part of the camp. An infusion of geranium roots, a native remedy, was used with great success.

Dr. Ryerson thinks the small number who died of wounds up to July 25th, only 732 out of 12,637, may be ascribed to the aseptic character of the bullet and to the prompt application of a first-aid dressing. The Mauser bullet, which was chiefly used by the English forces, is described as a merciful one. Its action upon human tissues depends, however, upon the range at which it is fired. It has been noticed that when it is fired at short ranges, within 200 yards, it has an explosive character. The nickel case seems to expand and become detached, causing a severe, lacerated and contused wound, which heals but slowly. If it strikes bone it crushes and destroys it. If fired at longer range it

makes a clean-drilled hole in bone, and if it strike soft parts only a very small wound is made, there being little difference between the wound of entrance and that of exit, which bleeds but little unless an important vessel is injured. In the case of the soft-nose or dum-dum bullet the wound is much more severe, for even where the soft parts only are injured, the expansion of the lead causes great destruction of parts and a huge wound of exit, the wound of entrance being small. When it strikes bone it pulverizes and disintegrates it. If the range is very long, 2,000 yards or more, the soft-nose bullet "mushrooms" and causes an extensive flesh wound. It has been alleged that poisoned bullets were used. They are simply green with verdigris, which, in all probability, is burned off in the rifle while the bullet is in transit through the barrel. Not more than twenty amputations have been done in 3,000 cases, which must be attributed to the character of the wound and to the conservative spirit of the surgery of the day. The effect of shell fire was interesting, if not destructive. The Lyddite shells are not nearly so destructive as is supposed. When they strike soft ground they do not explode. When they strike a rock they explode with great violence, but the Boers were so cleverly entrenched that but few were injured by them. They said the escaping gas made their heads ache, which was instantly relieved by a few drops of vinegar, and every Boer was provided with a small bottle of vinegar to ward off the ill effects of the gas.

Altogether, wounds showed a surprising tendency to heal rapidly, even under the most trying circumstances, which was due to the character of the bullet, the early application of antiseptic dressing, enforced temperance among the troops, their general good health, and the carful and painstaking work of the army and medical corps.

CLINICAL STUDY.

A DISTINGUISHED English physician, in an address before the British Medical Society, in comparing the preparatory and clinical study in his own country with that of America, says that while the course of study in England preparatory to entrance upon the profession is minute, scientific, and all that could be desired, clinical teaching falls far short of ours in the careful analysis of all the conditions, and the array of facts and their bearing upon each other which characterize our hospital work, and which is carried to such effect in our post-graduate schools. And yet here we have much to learn, and much more thorough work to accomplish in our hospitals before they can reach the high standing of scientific instruction of which they are capable. The analyses of phenomena presented at the bedside, and in post-mortem are not so complete and systematic as they ought to be, or perhaps as they would be with more careful study on the part of instructors, and the willingness to devote sufficient time and thought to the subject. The phenomena of diseases, being phenomena of living beings, present themselves in most, if not all, cases as problems, as mixed problems of physics, chemistry, and biology, to be grappled with by the doctor as they are grappled with by the psychist, the chemist and the biologist. To carry out this line of work, appliances of a much greater nicety and more delicate construction are required now than a few years ago; appliances which, year by year, must keep pace with the development of scientific investigation. It is to-day absolutely necessary that for the carrying out of the exact and complete analysis of the phenomena of disease, demanded alike in the interest of the individual patient and the well-being of mankind, each hospital should be provided with laboratories for different lines of instruction, and especially clinical fully equipped with all the needed appliances of scie ce. These should be as much a part of the requirements of the hospital as surgical instruments, bandages, disinfection, and medicine, while the well-trained and thoughtful mind, and no other, should participate in hospital work. Every experiment is made with the sole idea of getting at the truth and benefiting the patient, and when every step of its progress is closely watched, but little, if any, danger could result.

ETIOLOGY OF MALARIA.

WITHIN the past few years special attention has been devoted to the subject of malaria, and important facts have been brought to light in the cause and classification of disease, about which we have been in doubt or which have been included under that head. Surgeon-General Sternberg, in his annual address as President of the Philosophical Society at Washington, claims that the term malaria is a misnomer, either as applied to the cause of the periodic fevers, or used to designate this class of troubles. It would, he says, be more logical to use the name of plasmodian fever, and to speak of a plasmodian intermittent or remittent, rather than of a malarial intermittent. This term, however, it will be difficult to displace, as it expresses the popular idea of the origin of that class of fevers which we now know is due, with but few exceptions, to a blood parasite, introduced through the agency of mosquitoes of the genus *anopheles*.

Twenty-five years ago the best-informed physicians entertained erroneous ideas in reference to the nature of malaria, and the etiology of malarial fevers. Observation had taught them there was something in the air in the vicinity of marshes in tropical regions, and during the summer and autumn in semi-tropical and temperate regions, which gave rise to periodic fevers in those exposed in such localities, and the usual inference was that this something was of a gaseous form—a special kind of bad air generated in swampy localities under favorable meteorological conditions. It was recognized at the same time that there are other kinds of bad air, such as the offensive emanations from sewers, and the products of respiration of men and animals, but the term

malaria was reserved specially for the kind of bad air which was supposed to give rise to the so-called malarial fever. There is no reason to believe that the air of swamps, says General Sternberg, is more deleterious to those who breathe it than the airs of the seacoast or that in the vicinity of inland lakes and ponds. The green scum frequently seen on the surface of pools and standing water is made up of harmless algæ, and the gas which is given off from the mud at the bottom is, for most part, a comparatively harmless compound of hydrogen and carbon—methane, or marsh gas. We now know that the air in the vicinity of marshes is not deleterious because of any special kind of bad air present in such localities, but because it contains mosquitoes infected with the parasite known to be the specific cause of the so-called malarial fevers; where these parasites are not found in the form of plasmodia in the blood the disease cannot be classed as malaria. The fevers which can justly be ascribed to the infection of a contaminated water supply, if the conclusion drawn from these facts are correct, are not true malarial fevers, and are not due to the malarial parasite in the blood, but have been ranked with that class of diseases through an error of diagnosis requiring the microscope to differentiate. The fevers supposed to have been contracted in this way, says General Sternberg, are, as a rule, continued or remittent in character, and are known under a variety of names. Thus we have Roman fever, Naples fever, typho-malarial fever, etc. The leading physicians where these fevers prevail think they are not really malarial, but are more or less typical varieties of typhoid fever—a disease due to the specific bacillus commonly contracted from the ingestion of contaminated water or food. The error in diagnosis upon which the inference has been based that malarial fevers can be contracted through drinking water has been widespread in this country, in Europe, and in the British possessions in India, and naturally vitiated the medical statistics of the Civil War and of the recent war with Spain. It is only since the parasite has been discovered that the real character of the disease and its etiology can be differentiated from other diseases which, in many of its symptoms, it closely resembles. It must be remembered that a remittent or intermittent course is not peculiar to malarial fevers. Typhoid commonly presents a more or less remittent character, especially at the outset of an attack. In the formation of an abscess and in certain cases of pyemia, the febrile phenomena are so similar to malarial attacks that a mistake in diagnosis would not be surprising. The symptoms arising from indigestion, from gas, sewer, and ptomaine poisoning are often ascribed to malaria, and malarial remedies, such as quinine, which has a wide range of action, are prescribed with more or less benefit. Some of our ablest pathologists contend that the depression of the vital forces and the impoverishment of the blood from the malarial parasite, may be so great that the condition becomes in time markedly typhoid, the plasmodia even giving place to the typhoid bacillus. However great the light which has been cast by recent discoveries upon the etiology of malaria and typhoid, much yet remains for the future pathologist to accomplish in the study of the various forms of fever.

THE HAZING REPORT.

THE special Congressional Committee has done most excellent service in its investigation of hazing at West Point, as all will agree, who have kept track of the proceeding.

The bill reported makes stringent regulations against hazing, fighting, and all brutal practices.

The report is an exhaustive review of the practice of hazing in all its forms, and while moderate in tone, is nevertheless a stringent arraignment of the many alleged brutal practices enumerated. It specifies more than one hundred distinct methods of annoying and harassing fourth class men, and describes them in detail. The report says that a system of fighting has grown up which is shocking in its character. The fights are described, and the committee says that the West Point code is more vicious than the "Queensberry." The committee holds that fighting is the worst form of hazing, and says that such fighting as that at West Point is a felony according to the statutes in many of the States, and the time has come when Congress must decide whether fights which are high crimes elsewhere shall continue under its protection.

The committee finds that Cadets MacArthur, Breth, and Burton were hazed into convulsions, others were hazed until they fainted, while others were hazed until they were sick. The hazing of Booz and Breth is elaborately treated, but the committee does not attribute their deaths directly to hazing. The report adds:

"But while we cannot fix upon hazing the responsibility for these two deaths, the possibility that it hastened them and the blot it throws on the otherwise fair and glorious fame of the Academy, its conflict with proper training and discipline and unfitness in this new century urge the adoption of reasonable, yet we believe effective, measures for its eradication and the promotion of discipline at the Academy.

"It is, of course, impossible to determine with mathematical accuracy just what has been the effect of this long course of cruel and annoying treatment upon fourth class men. We do know that several, notably Cadets MacArthur, Breth, and Burton, were hazed into convulsions; that many more, including Cadets Hascall, Kensal, McGinnis, and Pegram, were hazed until they fainted. Cadet Van Natta, and perhaps others, have been hazed until sick. Cadets Booz and Breth were both treated with great severity, and were never well after they left the Academy, and each died in his young manhood before the graduation of his class; but we cannot affirmatively find that their death was caused by their treatment."

The committee says the conduct of Booz at the Acad-

emy was strictly correct, although under the offensive class despotism it was viewed as meriting chastisement. The circumstances of his being called out, his fight, and the system of annoyance practised on him are minutely related. The committee adds:

"Whether injuries in the fight, disturbance of the stomach, irritation of the throat, mortification of feelings, and other superadded ordeals to the severe but proper duties of a cadet created the depression in Booz, and without these unlawful exactions he could have studied and gained in strength and vigor, are also problems beyond human knowledge to determine. And the like commentary must be made respecting the case of John Edward Breth."

The provisions against hazing, etc., in the bill recommended by the committee are as follows:

"That any cadet who shall act upon or be a member of any fighting or like committee, send, carry, or accept a challenge to fight, or be in any manner concerned or engaged in a fight, preceded by a challenge, or shall act as a referee, timekeeper, second, or sentinel thereat, or shall upbraid, abuse, or insult or in any way maltreat any candidate or cadet because of his having refused to send or accept a challenge, shall be dismissed by the superintendent.

"That any cadet who shall direct, invite, or request any candidate or cadet to eat or drink anything for the purpose of punishing, annoying, or harassing him, or who shall, without lawful authority, direct or require any candidate or cadet to "brace" or engage in any form of physical exercise, shall be dismissed by the superintendent.

"No cadet dismissed under either of the two preceding sections shall be in any way reinstated or reappointed to the Academy, and no such cadet shall ever be appointed to any office in the Army, Navy, or Marine Corps.

"All forms of hazing not herein expressly provided for shall be suppressed, under such regulations as shall now exist or may hereafter be lawfully established for the Academy."

The thanks of the country are due the committee for the exhaustive manner in which the work has been done, and now let us hope that life and health may be more secure in consequence.

The effect upon other educational institutions ought also to be salutary.

PROPOSED MEDICAL BILL.

A BILL has been introduced in our State legislature concerning the practice of medicine, which is causing much discussion, and as originally presented, great diversity of opinion. The bill has, however, been so amended as to meet the reasonable objections made to it, and in this form it will probably be adopted. The object of this bill is to enable those who are empowered to do so, to enforce the medical laws. Under present interpretation the laws can only be enforced against illegal practitioners who give medicines. It is only necessary at present for a person to adopt some distinctive title, refuse to give medicine, and he may prey upon the community in the treatment of disease as much as he pleases.

The bill at present declares that any person shall be regarded as practising medicine who shall give treatment to any other person, by any method whatsoever, for the relief or cure of disease, excepting in an emergency. The object of the bill is to protect the public against a class of uneducated pretenders, and to compel any person who professes to treat the sick to pass the State Board of Medical Examiners, the same as all medical doctors are obliged to do. It does not seem unreasonable or discriminating that all those professing to treat others should prove their ability to do so before a suitable tribunal. The State already has such in its Board of Examiners, and one of the objects of the bill is to make all practitioners equal before the law in respect to examination.

No one, if he stops to think, would consider the question of trusting human life to one who had not at least gone through the form of preparing himself to make a diagnosis.

A sick person always wants to know "what is the matter," and how can he be truthfully answered by one who has made no study for this purpose?

If a doctor cannot make a diagnosis, how can he be expected to treat a patient, intelligently or otherwise? Morally, he has no right to take the responsibility! These are questions which would interest the public, if placed before them in the proper light, and would have a bearing in the elucidation of the proposed law. Whatever is done, we hope the impracticable will not be attempted, and if a law is enacted, it will be made sufficiently clear, so that the ordinary individual may understand it.

Three distinct propositions have been presented to the Legislature, having to do with the licensing of medical practitioners; that is to say, with those who treat diseases as a business. These propositions are, *first*, the desire to give a proper definition as to what constitutes practicing medicine; *second*, the effort to make the State of New York conform to the standard of other States, and endorse licenses granted by other States, and, *third*, the proposition to give to those who treat disease by a method called Osteopathy, the legal right to treat disease by that method, with all the rights and privileges enjoyed by those who have complied with the laws of the State in respect to education and State examination. These three distinct propositions are of great importance to the medical profession and to the public at large, for on the final disposition of these propositions depends the future status of the medical profession and the protection of the health of the community, which the enactment of our present medical laws was designed to secure.

The requirements of a candidate to enter the medical profession in this State are so well known that we need not repeat them here, and the object of the present bill is to compel all who propose to treat the sick as a busi-

ness to comply with the same rules, and, so far as we can see, it is fair and equitable, especially as it does not apply to any except those who make a business of treating disease.

There should be no lowering of medical requirements in this State, but reciprocity with the States whose standards are equal to our own would be proper, and in some instances very convenient. If the Regents have this power, under the present law, they should exercise it; if not, then the law should be changed to give it to them, with directions that the fact should be publicly announced, and the matter arranged with the respective States possessing the requisite standard, to carry it out.

We can see no reason why the Osteopath should not be required to pass the State examination the same as any other practitioner, and this should be insisted upon.

The Christian Scientist is a theologian, and should not be allowed to assume responsibility with the sick—a conditions which he insists does not exist—and the public good demands that he be prevented from assuming any such position.

NEW APPLICATION OF AN OLD REMEDY.

OUR wise legislators, in their desire to increase the facilities for rapid transit, by constructing an underground road, in which the propelling power of the cars would be electricity, have planned, it would seem, from facts recently brought to light, better than they thought. Since electricity has been substituted by steam on the London underground railways, it is averred that a trip over the road is a pronounced appetizer. Persons who for years have not had a speaking acquaintance with a respectable appetite, insist that they have been entirely cured by taking a ride over the underground road every few days. There is a possible reason for all this in the fact that electricity creates a certain amount of ozone, which, being confined within the tunnel, gives the passengers a bracing air to breathe, so that when they reach their homes the weariness of the day's work has, in a measure, vanished, leaving them with a sound, healthy appetite, ready for a good dinner and wideawake for an evening's social enjoyment. And so our capitalists, in providing for rapid transit, are contributing largely to the longevity and general health of our citizens. Capital linked with science, the one at the command of the other, is rapidly solving the great problems of life, for the benefit of humanity.

A NEW section has been introduced into the medical law of Massachusetts, and is now before the Legislature, providing that "whoever not being registered shall advertise or hold himself out to the public as a healer of disease, or able to abolish disease or the symptoms of disease, or as competent to do surgery, or shall in any way treat or prescribe for the sick or injured for gain, shall be punished by a fine of not less than $100, or more than $500, for each offense, or by imprisonment in jail for three months, or both."

DEAFNESS.

A NEW electrical device has been perfected by Dr. Samuel G. Tracy, of this city, which magnifies sound five times. It consists of the essential parts of an ordinary telephone, with a storage battery of four volts. The transmitter is fitted with a delicately adjusted microphone, consisting of a diaphragm and a small cup of carbon granules, each of a pin's head in size. The microphone magnifies the sound, as does the battery itself. There is also utilized an induction coil, such as is used by Dr. Pupin in his ocean telephone. By this device ordinary conversation is made audible to those whose ears are deaf even to shouting.

A LARGE variety of bacteria, including the germs of typhoid fever, diphtheria, anthrax, and other pathogenic and ordinary bacilli, have been found to endure the cold of liquid air and liquid hydrogen without injury. There was no alteration, either in the appearance or growth of the bacteria, after a ten-hour exposure to this intense cold, the examination being made both microscopically and by culture. The typhoid bacillus has been known in many instances to be transmitted through ice, frozen at a temperature below zero, from the typhoid excretions thrown upon it. A not very high degree of heat, however, is sufficient to destroy their life.

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This work may justly claim to represent with completeness the practical aspect of the therapeutic art as it exists to-day, and cannot fail to prove an efficient aid in practice. The text has been so generally revised and rewritten, that the present edition may be looked upon practically as a new work. Volume I. opens with a most practical article on general therapeutic considerations, by that master hand, Prof. Horatio C. Wood of the University of Pennsylvania. We commend it to the consideration of our readers.

We should be glad, did space permit, to analyse each of the twenty subjects which this volume presents, such as "nutrition and foods, including the treatment of obesity and leanness," by Dr. I. Burney Yeo; "Hydrotherapy," by Dr. Simon Baruch, and the host of other equally important article in which the book abounds, but the work must be read to be appreciated, and no one, in our opinion, will regret the time or the money which it will require to accomplish this result.

THE AMERICAN YEAR-BOOK OF MEDICINE AND SURGERY FOR 1901. A Yearly Digest of Scientific Progress and Authoritative Opinion in all branches of Medicine and Surgery, drawn from journals, monographs, and text-books, of the leading American and foreign authors and investigators. Arranged with critical editorial comments, by eminent American specialists. In two volumes—Volume I., including "General Medicine," octavo, 681 pages, illustrated; Volume II., "General Surgery," octavo, 610 pages, illustrated. Philadelphia and London: W. B. Saunders & Co., 1901. Per volume: Cloth, $3.00 net; half morocco, $3.75 net.

In the preparation of this digest of medicine and surgery for 1900, Dr. Gould, the general editor, has associated with him some of the ablest specialists in the profession, whose gathering of facts and editorial comments in the various departments of our profession shows a wonderful amount of industry and a critical analysis so just and discriminating that it will commend itself to the approval of all. The whole range of medical literature in every part of the civilized world has been closely scrutinized, and no important part escaped the attention of the editor and his collaborators. A carefully prepared index makes easy the consultation of every subject. Too much praise cannot be awarded to the publisher and editor for the completeness of their work.

DISEASES OF THE HEART; THEIR DIAGNOSIS AND TREATMENT. By Albert Abrams, A.M., M.D., San Francisco, Consulting Physician for Diseases of the Chest, Mt. Zion Hospital and the French Hospital. Illustrated. pp. 172. $1.00 net.

In this book the author discusses the subject of diseases of the heart entirely from a practical aspect. His most noteworthy researches in methods of diagnosis are here recorded for the first time in collected form, and the latest and most practical methods of treatment given in detail.

The general practitioner will find this little book worthy a place at his elbow.

URINARY DIAGNOSIS AND TREATMENT. By J. W. Wainwright, M.D., Member of the American Medical Association, New York State Medical Association, New York County Medical Association, etc. Illustrated with numerous engravings and colored plates. pp. 140. $1.00 net.

This book gives not only all the usual methods of urinary examination in a most practical way, but introduces a new feature, viz., a discussion of the clinical significance of the urinary findings and their practical application in treating the diseases of which they are symptomatic.

Among the subjects discussed are the following: Composition and Physical Character of the Urine; Normal Constituents of Urine; Abnormal Constituents; the Microscope and Microscopical Technique; Qualitative Analysis of Urinary Calculi; Bright's Disease, Diabetes, Gout and Other Conditions and Their Treatment; Favorite Prescriptions, etc. It is a most useful little book for ready use.

PHYSICAL DIAGNOSIS IN OBSTETRICS. A guide in antepartum, partum, and post-partum examinations, for the use of physicians and undergraduates. By Edward A. Ayers, M.D., Professor of Obstetrics in the New York Polyclinic; Attending Physician to the Mothers' and Babies' Hospital. With illustrations. New York: E. B. Treat & Co., 1901. pp. 283. Octavo. $2.00.

This little volume presents in concise, practical form the methods of the author as pursued with his classes in clinical teaching, in hospital and dispensary service.

The general practitioner having to do with obstetric work will find it a handbook of great service, and thoroughly up to date. We have no hesitation in commending this book to those interested in the subject.

A TEXT-BOOK OF PHARMACOLOGY AND THERAPEUTICS, OR THE ACTION OF DRUGS IN HEALTH AND DISEASE. By Arthur R. Cushing, M.A., M.D., Aberd., Professor of Materia Medica and Therapeutics in the University of Michigan; formerly Thompson Fellow in the University of Aberdeen and Assistant in the Pharmacological Institute of the University of Strassburg. Second edition, revised and enlarged. Illustrated with forty-seven engravings. Lea Brothers & Co., Philadelphia and New York, 1901. pp. 732. Octavo.

It must be a satisfaction to an author to have a second edition of his work called for in the short space of a single year, and that is what has happened in respect to this one. It is especially encouraging to modern medicine that a work which attempts to explain the *reasons* for drug action should meet with so warm a reception.

The text has been reinforced by articles on alcohol, salt action, and minor subjects, in order to keep abreast the times.

The author attempts to show how far the clinical effects of remedies may be explained by their action on the normal body, and how these may in turn be correlated with physiological phenomena, a basis at once scientific and practical.

Introduction to the Study of Medicine. By C. H. Roger, Professor in the Faculty of Medicine in Paris. Authorized Translation by M. S. Gabriel, M.D., with additions by the Author. New York: Appleton & Co., 1901..

This book is the reproduction of a special course of lectures delivered at the University of Paris in 1897-98, at the request of the Faculty of Medicine, to lessen, as much as possible, the difficulties met with in the study of the medical sciences. In carrying out this idea the author has endeavored to show what is the object of medicine, and by what means it may be studied. After having explained why and how an individual becomes sick, the author considers the morbific causes which constantly tend to modify the state of health. These causes give rise to manifestations through lesions and reactions they determine, most of which can be detected only after death, while others are appreciable during life. We are thus left to study the mode of reaction of the organism, namely, pathological physiology; to describe the organic changes constituting pathological anatomy, and to look for functional disturbance, the description of which forms the important chapter, Seminology. The author has followed, step by step, the course of morbid processes, thus constructing a frame in

which the description of general or special pathology can be placed. The active practitioner, as well as the student, will find in this book a masterly *résumé* of recent medical advancement.

Characteristics of the Homeopathic Materia Medica. By M. E. Douglass, M.D. 970 pages. Price, in cloth, $5.00; half morocco, $6.00. New York: Boericke & Runyon Co., 1901.

In the last few years many new drugs have been introduced into Homeopathic literature, which are found scattered through the various magazines. It has been the aim of the author to collect these, and other remedies, into a practical and conenient shape for handy reference. Great care has been exercised to retain only the most characteristic indications of various drugs—symptoms that the author has himself verified in a practice of over twenty years, or which have been reported or verified by trustworthy physicians. Recent literature has been laid under contribution, and the author has availed himself of the standard works of materia medica. The result is a concise work, fully up to the time, in which the leading indications for the remedies are clearly given.

The fourth volume of the tenth series of International Clinics, published by J. B. Lippincott Company, is full of interest, and covers a large range of subjects in therapeutics, genito-urinary diseases, medicine, neurology, surgery, pathology, and laboratory methods, illustrated with plates and figures. The articles are all by our ablest writers, short, practical, rich in thought, covering those points which the practitioner most needs in his professional work.

The A. B. C. Manual of Materia Medica and Therapeutics. By G. Hardy Clark, M.D. Boericke & Tafel, Publishers. Price, $1.00. 1900.

The author argues from the standpoint that the physiological effects of drugs are divided into two classes, the non-toxic and the toxic, which are diametrically opposed to each other, and that non-toxic doses of drugs are curative of diseased conditions similar to states induced by toxic doses of those drugs. By referring only to toxic effect of drugs, their therapeutic use in non-toxic doses, the relation of the two, as indicated by numerals, the whole subject is so simplified as to be brought into a small space.

CORRESPONDENCE.

PARIS LETTER.

To the Editors of THE MEDICAL TIMES:

I find myself rather unexpectedly transported to the paradise of the world—Paris—where I am spending a few weeks in observation of its people and things. It is an old saying, "See Paris and die." I suppose that is my fate. All France, yes, I may say, all Europe, is proud of Paris, for all Europe has contributed to her greatness; but the people of Paris are especially proud of their capital. Two gentlemen, *Parisiens*, were overheard talking together; one had lost his wife, the other was condoling his friend over the sad event. "Yes," replied the bereaved one, "my wife has gone to Paradise, but I remain in Paris."

The history of Paris is written in its monuments, sculptures, and paintings, at the hands of the world's great artisans and artists, and with the implements of the trowel, the chisel and the brush. This was a necessity of the period in which its history was written. It was written before the age of Settus, when the pen had scarcely begun its achievements; when thoughts took the forms of deeds, or crystallized themselves into deeds; before the time, also, when men had a real, living conception of their spiritual destiny, and sought, therefore, to perpetuate or immortalize themselves in forms of the most enduring stone and bronze. Beautiful they are, of course, marvels of creative ingenuity and skill; nevertheless, they impress me as materialistic; in other words, as most worldly-minded and groveling, falling, as they do, so far beneath or below the lofty spiritual conceptions and faith of the saints and seers, which they are intended to immortalize. There can never be another Paris, even if future vandals should sweep away, or the gods should bury this one, for the age of bronze and stone is past, and that of the pen has come; the idea of immortality has been transferred from the physical to the psychical, and from deeds of conquest and valor to those of justice and sacrifice, to be memorialized, not in bronze and marble by chisel and the plastic art, but by the pen. Victor Hugo's "Notre Dame de Paris" will live, I venture to say, when the bronze and marble, granite and stained glass of that marvelous structure shall have segregated to dust.

I should like to say something about the state of medicine in this capital, and perhaps I may do so at a later day. For the present, my impressions are not altogether favorable, as compared with those of New York. So far as the affiliation of the schools of medicine goes, the situation here is about the same as it is in New York. The members of the different schools are at peace with one another and are reciprocal in professional courtesy—even to consultations. The liberal practice has a strong hold here on the upper class; but the bulk of practice is in the hands of the old school—the school that remains true to the traditions of Galen and Cullen, and in Paris of Rousseau and Bichat. There are about 100 so-called homeopathic physicians in Paris, while of the old school there are nearly 2,000.

France being the most civilized nation in the world, according to Matthew Arnold,* there is less pauperism here than in any other nation; naturally they are less dependent on institutions of charity. The "dispensary abuse" does not accordingly exist here to the extent that it does in New York. The French are a thrifty people and pay as they go—the doctor, as well as others.

I had the pleasure of dining on New Year's Day with Dr. and Madame Sewaud and their family, 281 Rue St. Honoré. Dr. Sewand is one of the more prominent physicians of the liberal, or homeopathic school, although he does not write himself down or up as distinctly homeopathic. His father was a pupil of Hahnemann, and the son mentions the fact with apparent pride. He does not nail the distinction, or rather, designation, "Homeopathic," to his office door-post; nor does any other homeopathic physician of Paris do it. In fact, it is regarded as inimical to professional etiquette for any physician to put his name on the door, or at the entrance of his residence. Even when the number of his residence is known, the stranger in Paris is compelled to inquire of neighbors his way to the apartments of the physician.

Unlike America, there are no distinguished surgeons of the liberal school in Paris; nor are there specialists of repute in that school, such as neurologists, gynecologists, etc., for the reason, probably, that logically the practice of the liberal or homeopathic school does not

* Read "Mixed Essays."

comprehend specialism in medicine. But that is no reason why the art of surgery should be ignored by it or its practitioners. Time will change all that in Europe, as it has already done it in the medical profession and customs of America.

D. A. GORTON, M.D.

Paris, Jan. 3, 1901.

TREATMENT OF INFLUENZA.

THE following case will serve as a text for a few remarks on influenza: Mr. D., aged 50, a boiler-maker, a native of Philadelphia, was admitted to the hospital two weeks ago, suffering from headache, and pain all over the body. His father and mother died of old age. Has had malaria and rheumatism. Has of late been working on an oyster boat. No diseases of childhood. On admission he gave a history of the illness having commenced a week previous, with pain over the left tibia and knee and in the right leg. His temperature was 101° F., falling in a day to subnormal, with a rise on the 17th to 102, followed by a rapid fall. It is now normal. On admission a diagnosis of influenza was made. Coincidently a marked purpuric eruption occurred, which is a rare complication of influenza.

Before the epidemic of influenza, or "la grippe," of 1889 and 1890, the disease was only known to us by its history. It has, however, undoubtedly been known for a long time, even as far back as the fifteenth century. In 1889 it spread over the world more rapidly than ever before. As it was in London in the first week in December, reaching New York by the middle of that same month, this rapidity of transmission being due to the short time now required to make an ocean voyage between these two cities. Influenza is not now thought to be a miasm, but is known to be an imminently contagious disease, due to a specific micro-organism. The bacillus has an incubation period of from a few hours to two or three days. A great spread of the epidemic occurs every twenty-five years, but during these intervals smaller epidemics take place.

Influenza may occur in one of the four varieties: the nervous, the thoracic, the gastro-intestinal, or the cardiac; the latter, however, is rare, the nervous variety being the present prevalent type. The disease has a sudden onset with a marked chill or sense of chilliness and an abrupt rise in the temperature of the patient, the acme being reached at the end of the first or during the second day. Depression or asthenia is marked in comparison to other symptoms. Respiratory phenomena, such as cough and coryza, occur in the thoracic variety and consequently do not show in the present prevalent variety. In the nervous type of influenza, the patient has such symptoms as pain, neuralgia, somnolence and even delirium. Epistaxis is present in a number of cases, and in former epidemics was such a prominent feature that the disease has been termed "bloody catarrh." It was formerly thought that influenza lasted only a few days, five or six at the most, and if it continued longer it was as a complication. We now know that the disease may run a course covering two weeks and may resemble enteric fever, showing such gastro-intestinal symptoms as diarrhea and abdominal tenderness. A distinctive feature between influenza and enteric fever is the non-appearance in the former of the rose-colored spots which are such a characteristic sign in typhoid fever.

A marked feature of the infection is the peculiar headache, which is generally frontal and referred to the eyes, although sometimes the headache is general. The eyes are painful on movement and tender on pressure. Influenza in itself is harmless, except in young, feeble children and in the very old. In those suffering from chronic disease of the lungs, from valvular affections, in old cases of tuberculosis and in old kidney cases, it is dangerous. A very frequent complication is the influenza of pneumonia. Influenza is especially rich in sequelæ, such as myocarditis, forms of anemia, neuralgia, and diabetes.

Treatment.—The most scientific treatment is absolute rest in bed, and it will do more good than all the drugs in the pharmacopœia. Give the patient a mild purge, some opiate, such as Dover's powder, and a mild diet, not forcing the patient to take food. Give something to relieve the pain, but be careful of the coal-tar products, as they are most depressing. Phnacetin may be given in small doses. Alcohol does good in the feeble. The sequelæ should be treated as they arise.

J. H. A.

IN MEMORIAM XIXTH CENTURY.

Dead is the century—dead at last—
Consigned to the tomb of the hoary past;
Joined to the centuries gone before,
To await the coming of myriads more,
It has sped its race o'er the course of time,
And has left us an era more grand and sublime
Than was ever conceived in the aeons ago,
When our earth in its cradle rocked to and fro;
Since the far-away worlds sang their welcoming hymn
To our new-born sun on the Eastern rim.

. . . . . .

The heavens were robed in funereal vest
As Time bore the dead monarch away to his rest;
And a hundred pale years, with their ghostly tread
As bearers attended the mighty dead.

. . . . . .

Hail now to the heir—the proudest one known
Since sunlight first mounted its dazzling throne.

S. J. ALBRIGHT.

HEAT AS A RESUSCITANT—COBWEBS IN WOUNDS.

To the Editor of the MEDICAL TIMES:

Apropos of your editorial, "Elixir of Life," and your remarks on Dr. Dawbarn's experiments, permit me to mention a bit of personal experience, somewhat pertinent to the subject: During the summer of 1878 I was a student of biology and cognate subjects at the Peabody Academy of Science, Salem, Mass., under the tutelage of Minot (now of Harvard), Packard (now at Brown), Kingsley (now at Tufts), Emerton, Bollas, and others of like note. Working on the frog, late one afternoon, I accidentally, I presume, having dissected out the heart, left it in a small dish. Returning to the laboratory several hours afterward for some books, I saw the heart lying where it had been placed. I took it up and dropped it in a small dish of warm water, when, much to my surprise, systolic and diastolic movements began and continued for an appreciable length of time. With other frogs I repeated the experiment, and found that a warm solution, with or without salt, had the power of "resuscitating," so to speak, an apparently "lifeless" heart. Not long afterward I was called to see a small boy, who had been fished out of a pond, dead, as everyone, including two physicians, supposed. Hot water over the cardiac region restored him, after the failure

of digitalis, belladonna, nitroglycerine, and artificial respiration. Of course, these all aided the action of the hot water.

Though not pertinent to the subject, permit me to inquire if there is anything known of the effect of cobwebs on wounds. As you know, quite a number of people apply these products of the spider to wounds to allay hemorrhage. I have seen two fatal cases of tetanus following such practice.

STANLEY M. WARD, M.D.

Hampton, N. H., February, 1901.

[We have heard of many cases of wounds treated by cobwebs, with and without tetanus following, but since the advent of so many handy antiseptics and increased knowledge of bacteriology, the practice has likely declined, as it ought.—ED.]

DIFFERENTIAL DIAGNOSIS BETWEEN PERNICIOUS ANEMIA AND DISEASE OF THE SUPRA-RENAL CAPSULE.

THE case in which this problem was presented was a woman fifty-three years old, with the following history: There is a strong tubercular taint in the family, but the patient was in good health until one year ago. Then she gradually began to change color, parts of the skin becoming darker and darker. This was first noticed on the face, but it gradually spread all over the body. At the same time there appeared shortness of breath on exertion and increasing weakness. At the same time she lost forty pounds in weight; marked abdominal symptoms began six months ago, these being a troublesome diarrhea, pain, especially in the region of the liver, and some swelling. The urine shows a trace of albumen and some hyaline and granular casts. An examination of the blood shows 35 per cent. of hemoglobin, white cells 10,000, and red cells one and one-half millions. Nucleated red cells are present and the multinuclear whites are increased to 90 per cent.

Studying closely the pigmentation of the skin we find that there is not only a general discoloration, making the woman look like a light mulatto, but that scattered around are little masses yet darker. The nails are not discolored, and looking at the joints especially we do not find a deeper discoloration than elsewhere. It should be said that there is slight enlargement of the liver and spleen, and that there has been a slight continuous fever since the patient was admitted. These points lead to a discussion of what the meaning of this pigmentation is as regards diagnosis. If so marked as here, which makes the patient look almost like one of a different race, it generally means disease of the supra-renal capsules. Pigmentation in this connection is associated with disease of these organs, causing lost functional activity. This manifests itself by altered nutrition and particularly altered skin nutrition, in a way not as yet explained. The symptoms of supra-renal disease are asthenia, loss of weight, and there is apt to be diarrhea. All of these were present her, so there is much to bespeak such disease. But with these there are apt to be these points, not noticed here: First, there is great pain in the back in nearly all cases, this being the symptom in my experience for which most of such patients consult me. Second, in this disease we have pigmentation as here, but the joints always show a deeper hue, which is not noticeable in this case. These two points are against the disease, but the third and most important in my mind is the anemia. It is a curious fact that when Addison first described this disease he dwelt much on the anemia as being one of the most important points in connection with it. But this was before the days of accurate blood study. Since that time we have found that anemia does not generally go with this disease, hence its presence here is rather against than for supra-renal disease. I was rather leaning toward this conclusion at first, but on summing up I think it is not the right one.

But there must be some serious disease when the patient presents such an appearance and the blood change is threatening life, as it undoubtedly is in this case. What diseases other than Addison's would cause this pigmentation. First, there might be tuberculosis of the intestines or mesentery. Second, in all kinds of abdominal tumors, such as cancers, leucemic growths, etc. This is thought to be due in such cases to interference in some way with the solar plexus. Third, there may be pigmentation in diseases of the liver, particularly cirrhosis. Fourth, in pernicious anemia there is a general change of hue. Let us apply this knowledge to the case before us. First, as to tuberculosis, the general history of the patient favors such a view. Then she has had some cough, but we do not find anything wrong with the lungs and the absence of abdominal tenderness is against this condition in the intestines. Of the other possibilities named, I believe we have this condition here from pernicious anemia. What impresses me much is the shape of the red cells, irregularity always being in favor of pernicious anemia. We will conclude then that we have here a case of pernicious anemia with pigmentation of the skin. I am inclined to think also that the fibroid change in the liver has something to do with the pigmentation in this case. This conclusion has much to do with the treatment. If we had decided that it was a case of supra-renal capsule disease, we should have treated it by giving one grain of the gland extract three times a day, which is perhaps the very best treatment for that condition.

But we shall look to the blood here. The patient's nutrition will be improved as much as possible. Malt extract will be a good thing to give. Also beef marrow if she can take it well. She will also be given ascending doses of arsenic, the only drawback to its administration being that it is apt to increase the diarrhea. If this be the case a one-half grain opium suppository may be given at night, or if it prove ineffectual, sulphuric acid and deodorized tincture of opium may be tried. Oxygen inhalations will also be given.

A case that may be instructive in connection with this one is that of a girl of 16 suffering from malarial anemia. She has been under treatment for two weeks with Fowler's solution and oxygen inhalations. The red cells have been increased from three million two hundred thousand to three and one-half million, and the hemoglobin from 50 to 54 per cent. The malarial organisms are still present, the estivo-autumnal type, but in reduced numbers. The girl is now getting ten drops of Fowler's solution three times a day and I shall have this worked up to fifteen if possible.

A.

—Queirel has found calcium sulphydrate extremely useful in removing hair from the field of surgical operations, according to the *Semaine Med.* of July 4. It is applied in a thin layer like a paste and rinsed off with tepid water in five minutes, rubbing lightly with a cloth. The hairs wash off with it, leaving the surface smooth, without irritation or inconvenience of any kind, except the rather unpleasant odor of the hydrosulphate, which can be disguised if wished. The hair soon starts to grow again.

HOSPITAL REPORTS.

SURGICAL CLINIC.*

ALEXANDER B. JOHNSON, M.D.,

Assistant to Attending Surgeon, Roosevelt Hospital, New York.

CASE 1. *Acute Suppurative Mastoiditis.*—When this child was examined under ether, with a probe, there was found a deep sinus, which extended down to dead bone in the frontal portion of the temporal or mastoid fossa, we could not tell which. There were two sinuses, which were united by a curved incision running in front of the ear. It was then discovered that the trouble was simply a mastoiditis with necrosis of the mastoid process, and that the mastoid cells were filled with pus. There was a chronic suppurative inflammation of the middle ear, which had inflamed the mastoid cell. The mastoid process was removed, much gouging was done, and the sinuses were cleaned out. The communication with the middle ear was made free. The child has since done well. Immediately following the operation there was a temperature of 100; a child may have that temperature with no serious results. This case is interesting in that these sinuses developed without there being given by the mother any history of any trouble with the middle ear. A point of much consequence in these cases is that we should remove the entire mastoid process and leave the wound wide open so that no retention is possible. It was necessary, in this instance, to cut through the entire thickness of the skull for the necrosis of the bone. But that is not dangerous. As I now use the syringe to irrigate with peroxide of hydrogen solution you can see the free communication that has been made.

CASE 2. *Inguinal Hernia, Varicocele, Amputation of Scrotum.*—This man, whom I operated upon one week ago to-day, had a number of lesions or conditions which are somewhat interesting. He had an inguinal hernia on one side, a varicocele on the other, and a relaxed scrotum. He had the hernia for many years. I did the three operations at the same time, *i.e.*, I operated upon his hernia on one side, his varicocele on the other and I diminished the size of his scrotum. So far as his hernia goes you can see that it is in good condition. This darkened condition of the skin above the line of incision is the result of the prolonged use of his truss. This being the seventh day after the operation I will take out the skin sutures. The retention sutures were taken out about the third day, because, if left longer, they tend to irritate the skin. This very fine silk produces a very small amount of irritation. On the other hand, catgut causes a good deal of irritation, even when it has become absorbed, as shown by a red line, even when there is no pus present. I cut off a good deal of his scrotum. Before the operation it could be drawn down nearly to the knee. The operation consisted in stretching it down quite strongly, then seizing it with a long clamp and dividing the part with a pair of scissors. The wound was made transversely: you may sew it up vertically, or transversely, it makes no difference. Following all operations of this nature there is a certain amount of an epididymitis, so slight in this case that I can hardly feel it. At this point the veins were sewn together. Here is where the drainage existed in this big wound. The wound was so extensive because, before dividing the scrotum, it was drawn down with considerable force so as to take off a large portion of it.

There can be no objection to doing these three operations at one time, because the patient must lie in bed three weeks on account of his hernial operation. The scrotal wound was sewn up transversely, although some sew the wounds up vertically; indeed, I believe it is customary to sew them up antero-posteriorly. All this redundant mass will shrink down in time. I think it is very important, in this operation for varicocele, to sew together the divided stump of excised veins and to apply a suspensory bandage to hold up the testicle; that relieves the tension. I am not in the habit of practicing the subcutaneous method of tying off the veins for several reasons. In the first place I am too timid, for occasionally we tie off the vas deferens, and then you may be in danger from the individual upon whom you operated. One surgeon tied off the vas deferens, and the patient killed him. In doing the open operation we are more sure of our work; if you cut down upon a mass of varicose veins you can see exactly just what you are going to do; you are not working in the dark. You then can tie off just as many veins as you think necessary; it is not wise to tie off too many, for then you are in danger of atrophy of the testicle by interfering with its nutrition; if you do not tie off enough, you then submit the patient to the risk of having them return. Therefore, although the subcutaneous method appeals to the patient's ideas of safety yet, after all, it is a dangerous method to employ. If you work so in the dark, you may tie off too many, or not enough, or, again, you may include in your ligature the vas deferens. You cannot absolutely control any accidents occurring in the performance of the subcutaneous method, nor can you assure your patient of an absolute cure, for many of these cases have relapses. Another advantage of the open method is that you are making a natural suspensory bandage, and making a firm support for the testicle. When the testicle hangs down these patients suffer a great deal; if relief is taken in the veins then the veins hang as they should, high. Further than that, the scrotum in this case was so very long that I thought it to be a decided benefit to the patient to have it shortened; that also helps as a suspensory bandage. In all these cases be very careful to raise the scrotum by packing plenty of gauze under it. Again, if not properly supported, the circulation may be interfered with, obstructed, and increase the tendency to swelling and œdema.

In answer to a question from one of the gentlemen present regarding the case of tetanus in which the antitoxin injection was employed, the symptoms came on so strongly that, in spite of the injection, the patient became rapidly worse and he was so distinctly ill that I thought it even wrong to chloroform him or do anything else; the patient died, although there appeared to be some improvement after the antitoxin injection. As yet one cannot say what the results of this method of treatment will be in a really severe case of tetanus. Cases which give but moderate symptoms, coming on rather slowly, undoubtedly are benefited by the antitoxin. But where the symptoms are severe the question as to the results of the antitoxin injection is yet *sub judice*. I do not know whether antitoxin is capable of saving a really severe case of tetanus or not. Some cases of Dr. Abbe's, treated last summer, recovered, but they were not really severe cases, nor of the type you saw here the other day. That case was one following a dreadful injury, in which there was a lacerated wound in the perineum and the rectum was torn entirely loose; such a case could hardly survive his injuries.

* Delivered at the Sims Operating Building, Roosevelt Hospital, Jan. 25.

CASE 3. *Some of the Sequelæ of Treatment of Stricture of the Urethra by Rapid Dilatation.*—This is a case of illustrating the extreme results which may happen in the treatment of stricture of the urethra by dilatation. I believe that the conditions here presented are the results of the individual being treated for stricture of the urethra by dilatation, not gradual but rapid, which has resulted in a secondary cystitis, and where there has been an ascending infection along the ureter, and the patient now suffering from a suppurative nephritis. These are accidents which sometimes follow the treatment of strictures by dilatation, especially by rapid dilatation. It is very painful to pass two, three or four large sounds, and you run great danger of a cystitis and other complications following. It is far better to do the proper operation by an external urethrotomy, and to properly drain through the perineum; and this is much less painful, too. There has never been a case in the hospital here where a stricture was divided and an ascending pyelitis followed; whereas a number of cases of pyelitis followed the method by dilatation, and this is one of those cases.

The physical signs are not very definite. The patient's urine is moderately purulent. I have not attempted to pass a ureteral instrument. When we examine the abdomen on the left side there appears a certain amount of tenderness, but no pain. On the right side it is much more tender and quite tense. When I palpate behind and below the last rib on the right side, with one hand in front, I experience a decided sense of resistance. Even with his breathing with his mouth wide open and allowing his abdomen to become quite loose, it is quite difficult to examine him; the walls are too rigid. The muscular rigidity is so marked that I can feel nothing but muscular rigidity. Day before yesterday there was a decided tumor in the region of the right kidney, tender and quite easily made out by pressure posteriorly and anteriorly, somewhat large, round at its lower end, which was not very painful and was situated immediately in front of the examining hand.

In these cases the condition of the urine is very important, of course. If it is possible to introduce a catheterizing cystoscope, and catheterize the ureter, we can then succeed in making a definite diagnosis. Perhaps the most important thing to do in every one of these cases where an operation is contemplated is to learn if there is another kidney present, and what its condition is. That is a question of great importance. If you can determine that the presumably sound kidney is not sound, there is no need to operate. The only way to determine this question with absolute certainty is to use the catheterizing cystoscope, or to try to catheterize by the direct method, as done by Dr. Howard Kelly, of Baltimore. Kelly's method consists in passing a straight tube into the bladder and catheterizing the ureter; this is done in the female after first dilating the urethra with a large speculum. The passing of a ureteral catheter in women is a simple thing. It is necessary that we have a head mirror, or an electric head-light, with the patient's pelvis elevated; dilate the urethra, and allow the air to rush into the bladder and distend it, which it does. Then, if the head mirror be good, or with an electric head-light, we can catheterize the ureter, unless there is some obscuring of the field by hemorrhage, or a capillary condition of the mucous membrane of the bladder. In most conditions it is a simple matter. But, if you attempt to catheterize the ureter of a man, it is a very difficult thing to accomplish. In the first place, it is necessary to use a longer tube. The bladder is filled with six or eight ounces of water, which may become bloody very soon, and prevents your seeing through it. The instrument must be held in exactly the right position, or else you can see nothing at all. The telescope, which is in the cystoscope, disturbs to a great extent the conformation of the parts. It is extremely difficult to introduce the cystoscope, to see the ureter, and, at the same time, to hold the instrument in place and to keep the patient quiet. This is one of the most difficult things to do, and failures are very common. There are but few surgeons in New York who will attempt it. The best cystoscope I believe to be Brunner's. It is a simple instrument, intended merely for catheterizing the ureters. It is small in size. It has a telescope, and through it one sees immediately above it a small point of the catheter sticking out. The catheter goes right through the telescope. The way to use the instrument is to introduce it through the bladder, after washing out the bladder with water; then light up, find the ureter, and attempt to enter. There is this difficulty: You can readily find the mouth of the ureter, for the telescope magnifies it and makes it easily seen; but, having found the entrance to the ureter, you then attempt to enter with a soft catheter, and as you push it it bends on itself. Of course, in patients who have strictures, you cannot use this instrument.

Now, having found that one kidney is all right, you are in a position to operate. There is no objection to catheterizing the unhealthy kidney *after* you have found the other kidney is sound. This man, unquestionably, has a pyelitis, often called suppurative nephritis, or a pyelo-nephritis, following an ascending inflammation of the genito-urinary tract, caused by a stricture, the inflammation lighted up by the violent use of sounds. I do not think that we should at once do any surgical operation upon his kidney, although his general condition is not bad. We have now a patient in the ward with a condition almost like this, and he is getting well without operation. He had no tumor, merely a great quantity of albumen, with a moderate amount of pus. In a certain number of cases it is best to leave them alone. I could not catheterize his ureter because he had a stricture. He is getting well by remaining absolutely quiet in bed. This patient should be placed in bed, and given urotropin, or salol, or boric acid, attention paid to his diet, etc., and sometimes, under such measures, the inflammation subsides. This condition may be due to a variety of things. If it is due to the breaking down of the kidney substance, he cannot be cured without an operation. It may be due to a distention of the pelvis of the kidney from some swelling of the mucous membrane in the tract below. Again, the kidney may be swollen simply from distention with blood, from congestion, or from a minute abscess of the kidney. Or, again, the inflammation may extend to the capsule and that may become thickened. This patient should be kept under careful observation for some time.

It would as yet be hardly fair to characterize it as the result of the improper use of the sound, because no matter how carefully the sound may be used, especially in suppurative processes, there may be an ascending inflammation result; that is an important point, and should be borne in mind.

Dr. Ben. H. Brodnax aserts that a solution of Epsom salts, "1 to 16," applied to a scar, will remove the cicatricial tissue in a short time.

He also says that sponging the body twice a day with the same remedy, and a teaspoonful internally three times a day, will reduce obesity rapidly.

RETROSPECTIVE DIETETICS.

Disorders Due to the Abuse of Certain Foods in Infancy.—According to Professor Czerny of Breslau (*Art Méd., Diet. and Hyg. Gaz.*Q, milk, when taken in quantities of one liter or more a day, often produces in infants under the age of two years obstinate constipation accompanied at times by hemorrhoids and anal fissures. These troubles resist every possible method of purgation, but subside as soon as the use of milk is discontinued, or at least greatly restricted. For this reason the physician, whenever consulted in regard to chronic constipation in infants, should inquire, before instituting medicinal treatment, whether too large an amount of milk has been given. It is not unusual to see children who take too much milk become anemic. They soon recover, however, under the influence of a mixed diet containing a large proportionof vegetables. The excessive use of milk predisposes the infant to cutaneous disorders, especially to impetiginous eczema and to recurrent inflammation of the follicles of the skin; it often causes disturbed sleep, and leads to the formation of a large amount of sediment in the urine, and increased elimination of uric acid. In little girls it is likely to give rise to a rebellious vulvo-vaginitis, which only yields to a mixed diet in which leguminous and farinaceous foods predominate. The inordinate feeding of eggs to infants often produces a chronic or recurrent diarrhea with mucous stools—troubles that also disappear promptly when the little patient is put upon a rational diet.

Food in Zymotic Enteritis.—Milk food of any description is, in the majority of cases, badly borne during the early part of an attack of summer diarrhea. F. P. Elliott (*Bristol Med.-Chir. Jour.*, September, 1900; *Med. Prog.*) says that it must be completely excluded from the diet at the onset, and when vomiting is severe all food must be prohibited for twenty-four hours or more. That food must be given, if at all, only in small and oft-repeated quantities is a *sine qua non* in treating the disease. Boiled water or barley-water should, however, be frequently given. Later, broths from mutton, veal and chicken, with the fat removed, form the most satisfactory diet. A return to milk should be made slowly, but as soon as possible. When milk continues to cause trouble raw beef-juice is an excellent substitute. The best way to prepare it is to chop up finely raw rump-steak and allow it to soak in four times its bulk of cold water for half an hour. The meat is then squeezed in a piece of muslin and the juice extracted. It should be kept cool and freshly prepared frequently. This may entirely replace the proteid of milk for several days.

Alum Baking Powder.—Smith (*N. Y. Med. Jour.*, Oct. 27, 1900) has experimented on two healthy young men with bread made with alum baking-powder and control-bread without it, using a test-meal in each case and examining for total acidity, total hydrochloric acid, free hydrochloric acid, combined hydrochloric acid, and the pepsin test. The results in the two cases have been only such as would be likely to occur under any circumstances and varied alike after using the alum baking-powder bread and the control-bread. A more elaborate experiment was undertaken to determine whether the baking-powder bread was absorbed from the alimentary tract to the same extent as the control-bread and whether in the process of digestion and absorption there was evidence of any disturbing influence. It was found that the availabilities of the diets in the two periods are practically identical. The conclusion reached by the author from these experiments is that food prepared by the use of a so-called alum baking-powder does not interfere with secretion in the stomach, and that, even when it makes up the major part of the diet, it is utilized by the body in the same way and to the same extent as an acceptable control diet. The investigation does not reveal any reason for believing such food at all injurious or unwholesome.

When Should Patients Be Advised to Eat Everything?—A paper on this subject by Boardman Reed (*Internat. Med. Magazine*, August, 1900) concludes as follows: We should never advise our patients to "eat everything" until we have thoroughly cured their diseased digestive organs and freed them from the lithemic condition; and powerful as are our modern weapons against these, we cannot often succeed in accomplishing such a radical cure until the patients have reformed their unhygienic habits, not only in eating and drinking, but also in both their work and play. They must learn self-denial, and at least the rudiments of the immutable laws of health, and, having learned, obey them. They must take into their stomachs, in approximately right proportions, the things that will nourish and strengthen them, and little or none of those whose chief effect is to derange or irritate the functions or tissues of the body. In many cases, besides, they must give up sedentary employments or pleasures, and take regularly every day an adquate amount of out-door exercise. In short, oxidation must be made to bear its proper ratio to alimentation.

Nor should we advise even the well persons in the families under our charge to "eat everything" without some regard to their idiosyncrasies and tendencies, as well as a reasonable amount of care that they do not follow a harmful acquired taste for too much of the rich and complicated viands, or such undue proportion of nitrogenous foods as would make patients of them a few years later by setting up gradually insidious forms of chronic disease which would inevitably result at a relatively early period of their lives in gout or rheumatism, or in other more serious and fatal organic affections.

TRANSLATIONS AND GLEANINGS.

Dr. Henry Foster, the founder of the Clifton Springs Sanitarium, died at his residence January 16th, in the 80th year of his age.

The Christian Scientists are puzzling themselves over the meaning of the word *ouch* which was uttered with great unction by Mrs. Eddy as she was having a tooth extracted. Of course there was no pain and the word must have spiritual significance. Will the healer explain.

Professor Joseph McFarland, M.D., the eminent writer, teacher and authority on bacteriology, of Philadelphia, will devote himself to scientific research in the biological department of Parke Davis & Co.

This firm is trying to do its whole duty to the profession in this important field, and it is to be congratulated upon the acquisition of so eminent a pathologist, as it will enable them to prosecute more energetically than ever the experimental researches into the etiology, the pathology, the toxic products and the possible cure of the various infectious diseases, subjects that cannot fail to interest the entire medical profession.

Chronic Ear Vertigo: Meniere's Disease.

This not infrequent condition is of importance to the practitioner, since vertigo may arise from malnutrition of an unimportant type or from cerebral conditions threatening fatal results. It may also simulate ntoxication at times and a mistake as to the condition might be of serious consequences. In the September 29th number of the *Philadelphia Med. Times*, Dr. Charles Burnett presents an interesting paper on this subject, embracing the symptoms and pathology of the disease, saying, that the vertigo is primarily due to chronic disease in the tympanic cavity, following chronic catarrh of the middle ear, with its tendency to sclerosis of the mucous membrane of the cavity, rigidity of the membrane of the round window, retraction and stiffening of the ossicles of hearing, and consequent impaction of the stapes in the oval window of the vestibule. This pressing upon the labyrinth fluid and subsequent compression of the fluid about the nerve terminals in the semi-circular canals leads to this reflex phenomena of ear-vertigo. As a rule, it is the ear most seriously affected with deafness and tinnitus which gives rise to the symptom. The earlier attacks are generally light in character and brief in time, but later the attack is accompanied with nausea, vomiting and even collapse, but the latter is never associated with loss of consciousness, and this is the differential guide in the diagnosis between apoplexy and epilepsy, with which it may be confounded especially in the earlier attacks. Examination of the membrana tympani will show among other evidences of the chronic catarrh a marked retraction and fixation of the ossicles and in this mechanical cause of the ear vertigo lies the suggestion for the treatment recommended by the author, namely, the removal of this retractive force and the liberation of the stapes. This he accomplishes by cutting away the incus from its connection with the stapes and malleus. The technique of the operation is given both for the chronic catarrhal condition and the purulent. He has performed the operation in its two forms in 27 cases mostly in chronic catarrhal otitides, and never failed to give relief. In two instances entire and prompt relief from ear vertigo of over a year's duration, following mumps, has been afforded by the removal of the incus as detailed in the paper.

Dr. Urban Pritchard (*Journal Laryn., Rhin. and Otol.*, September), in his address before the Thirteenth International Medical Congress on this same subject, draws a distinction between *Meniere's symptoms* or symptoms of irritation of the semi-circular canals produced by some external influence, such as pressure, or extending inflammation, and *Meniere's disease proper*, which is due to a lesion in the posterior labyrinth itself (utricle and semi-circular canals). The former condition may arise from irritation in the meatus, as in syringing or in impacted cerumen or a foreign body; or the middle ear may be the source of the trouble, as shown above: again intercranial lesions, interfering with the equilibration nerve tracts or with nerve centers, may cause it, and in these cases errors in diagnosis may be easily made. The author suggests that seasickness is mainly an affection of the posterior labyrinth, due to irritation of its nerve terminations from the swaying of the vessel, producing almost rhythmic movements in the fluid within the semi-circular canals. Meniere's disease proper he divides into the apoplectiform and epileptiform, premising that the names must not be taken to imply that the disease has any connection with cerebral apoplexy or epilepsy. In the first case there usually occurs one severe seizure, sufficient to practically destroy the function of the ear, and is probably a hemorrhage or severe congestion. The predisposing causes to this attack being found in leucocythemia, kidney disease, or the like; sunstroke and acute inflammation occurring in mumps or tertiary syphilis may occasion it; more rarely it is traumatic, as in one case seen by him, the result of a blow behind the ear from a golf-ball. In the epileptiform the attacks are recurrent, as in epilepsy, and in his opinion resembled a definite disease, since the tendency was to run for two or three years, gradually passing away as the functions of the ear became destroyed, unless arrested by treatment or by Nature itself, whereas the apoplectic form might be regarded more or less as an accident. Debility from some long lasting illness was a common predisposing cause. Gout and sunstroke might be exciting causes, but it was not associated so frequently with middle-ear catarrh, as commonly taught. The treatment varies somewhat as to cause and condition, consisting of counter irritation, sedatives and tonics, with results not very encouraging. He incidentally refers to one of his patients who resorts to bicycling when the giddiness comes on, as she found it was arrested by this form of exercise. He recites the brief notes of a case in which surgical measures produced so much relief as to lead him to hope that through that means a greater measure of success may be attained than in the past. The patient, age 54, had had left otorrhea since childhood; had had partial mastoid operation; vertigo so bad cannot walk without assistance; loud and distressing tinnitus; left side quite deaf, and tuning fork not heard. In doing the complete operation a portion of the petrous bone was removed, destroying in part the semi-circular canals, and opening the back of the vestibule. Clear fluid escaped. The cavity in the petrous was $^5/_8$ of an inch in depth, and in size would have taken a Barcelona nut. The final record is: Healing complete (skin grafting had been performed), patient can run down the ward. There is no vertigo or tinnitus, and the hearing has returned in a marvelous way, since the watch could be heard at 6 feet, and a whisper at 23 feet.

Dr. Moll (*idem.*, Oct.), in speaking to this same subject, said that the trouble was primary if there was intralabyrinthine lesion (hemorrhage, syphilis, etc.); it was secondary if there was only an increased intralabyrinthine tension, due to lesions of the middle-ear (retained intratympanic exudation, anchylosis of the ossicles, fixation of stapes, tubal obstruction) or external ear (impacted cerumen). Vertigo due to stomach reflex had withdrawn attention from the labyrinth, whereas vertigo arising from morbid changes in nose and nasopharynx had drawn too much attention to the labyrinth, and led to the neglect of the principal causes—a pardonable error, when we consider the intimate relations between affections of the nose and affections of the ear. Inasmuch as the symptoms grouped as Meniere's disease were found in different forms, arose from different causes, and were exactly the same when other parts of the ear were affected, he did not think the name should be restricted to one type of the disease. He would therefore favor giving up the title of "Meniere's disease" and adopting the suggestion instead of "Meniere's symptoms" for all cases, with the reservation that a classification be made depending on the position of the affection. Thus:

Meniere's Symptoms in

(1) Disease of external ear.

(2) Disease of middle-ear { *a*, acute, *b*, chronic,

(3) Disease of internal ear { *a*, hemorrhagic, *b*, traumatic, *c*, acute, *d*, chronic, *e*, toxic,

(4) Disease of nervous acousticus { *a*, tabes, *b*, neoplasms, *c*, neuroses, (angio-neuroses).

(T. M. S.)

DORMIOL.

Dr. B. Tendlau, physician to the Hospital Moabit (Berlin), says* that in Prof. Goldscheider's division, dormiol was used in a great variety of cases of insomnia. The causes of the insomnia included alcoholism, acute pain, cachexia, neurasthenia, hysteria, heart disease, and convalescence from the acute infectious diseases. The results were variable. In insomnia due to severe pain small doses of dormiol produced no effect whatsoever; tablespoonful doses of the 10 per cent. solution induced a short sleep, shorter than that induced by similar doses of trional, chloral, or amylene alone; in compensation, however, the after-effects which follow the use of the latter drugs—headache, nausea, malise—were always absent. In the milder forms of agrypnia, especially in the insomnia of neurasthenic and hysterical patients, the administration of dormiol was generally followed by a deep sleep lasting several hours. The author thinks that the real indication for the use of dermiol will be found in this last class of cases. The dermiol also proved useful in cases of heart disease, where chloral could not be administered.

A Case of Chronic Rheumatism.—By L. B. Smith, M.D., Hornellsville, N. Y. Six years ago I had synovitis of the right knee joint, following an injury from which I was confined to the house for several weeks. but finally recovered with slight stiffness. In January, 1897, the same knee began to enlarge, which gradually increased until it was at least half as large again as normal. Before this time arrived the left knee, left ankle, left wrist, right elbow and right jaw became affected, the latter becoming so bad that I could not place a teaspoonful of food between my teeth. I sat in a wheeled-chair for twelve weeks, during which time I lost flesh and appetite, while sleep was almost out of the question, excepting at short intervals. Before these conditions appeared my urine was loaded with uric acid, and despite all remedies and treatment, could not get rid of it. Being a physician myself, in practice since 1875, I tried everything known to me. When recommended to take thialion, my strength was almost gone. In forty-eight hours my urine was alkaline, an almost inconceivable result. After a few days I only took one dose a day, viz., a teaspoonful in half a glass of hot water, and I just balanced the urine from slight acid in the morning to slight alkaline at night. In a short time my joints began to decrease in size, and I continued to improve. I have continued to improve, until now I am as well as ever, except a little stiffness of the right knee, which is steadily improving. I still take a little thialion occasionally, as a preventative, as I have had all the uric acid deposits I want in my joints. I weigh now within five pounds of as much as I did before this attack. One mistake in all such cases is that they do not take the medicine long enough, for it has to remove the deposits through the blood, by the alkalinity mentioned. Thialion certainly did for me what no other remedy did.

* *Fortsch. di Medizin*, No. 44, 1900.

Suggestion without Hypnotism, as a Therapeutic Agent.—"Suggestion without hynosis, in my judgment, plays a very important rôle in the treatment of disease, and imports into our therapeutic discussions a very uncertain element," says Dr. Harold N. Moyer, in *Medicine*. "Medical literature is replete with observations in which the influence of the mind upon the body and the so-called vegetative functions is set forth in a way that does not admit of denial. The question whether this force can be harnessed, and so directed as to be of value in therapeutics, is one that is still unsettled. The more, however, that it is studied, the more its value becomes apparent, and he who mixes his drugs with a large percentage of suggestion will secure the greater success in their application.

" . . . Hypnosis, on the contrary, has many objectionable features. It is by no means easily induced excepting in those individuals with very unstable nervous systems, and in these it is quite certain that the effects are harmful. It is exactly in this class of cases that suggestion, without hypnosis, can be most efficiently employed, so I believe there is little necessity for inducing a hypnotic state. I do not pretend to say that it should never be done, but I do not believe that it should be undertaken in a routine way, and I believe that it should be practiced by medical men alone."

Ill Effects of Thyroid Extract Controlled by Arsenic.—Mabille (*Rev. de Thérap.*) hopes that he has found in arsenic a means of preventing the ill effects of thyroid extract, as observed in some patients. The increased use of the thyroid gland, not only for myxedema, but for obesity, goitre, certain skin diseases, and in general for malnutrition, makes it important that there should be some means of controlling the vertigo, palpitation, dyspnea, anxiety, etc., from which patients who are particularly sensitive suffer. The writer observed that these symptoms disappeared in one of his patients when she was taking Flower's solution and reappeared when she stopped the arsenic. From 2 to 12 drops of Fowler's solution at a dose was found to be sufficient to prevent any unpleasant symptoms even when taking 12 grains a day. Two other patients took arsenic with thyroid extract, with happy results, and the arsenic did not weaken, apparently, the force of the thyroid extract.

Every Disease Has Its Odor.—Dr. McCassy declares that every doctor should be able to diagnose measles, diphtheria, typhoid fever, consumption, and even epilepsy, by the smell, as every one has an especial odor when disease is present. Thus in case of favus, the patient exhales the odor of mice; in rheumatism, there is an odor of acid that is very easily recognized. In cases of pyemia, the breath is nauseating in its smell; in scurvy, too, there is a putrid odor. In peritonitis, the odor is like musk; in case of scrofula, like sour beer. In ordinary fever there is an ammoniacal odor. In intermittent fever, the odor is like that of fresh baked bread. Among hysterical women there are many delightful odors, violet and pineapple being most manifest.—*Doctor's Magazine.*

MISCELLANY.

—Christian Scientists say that as an evidence of the necessary faith the fee must invariably be paid in advance.

—Nine per cent. solutions of essence of cinnamon, 11 and 12 per cent. of essence of thyme, and 18 per cent. of essence of geranium, assure complete disinfection of the hands.

—When a child complains of pain in the knee for any length of time, without any evidence of local disease, invariably be on your guard. Nine times out of ten it means that the child has hip-joint disease.

—It is said that the Board of Education in Philadelphia is about to undertake to train school children to be ambidextrous, through a regular course of exercises to be carried out at the schools. The success of the experiment will be watched with interest.

—It is announced that the Spanish government has made substantial contributions for the enlargement of Dr. Ramon y Cajal's laboratory at Madrid, also for its yearly maintenance, and has, in addition, bestowed a not insignificant pension on the distinguished scientist.

—It appears from the *Sei-I-Kwai Medical Journal* that since the new medical-practice law has come into force in Japan about sixty foreigners have applied for a license. Licenses have been granted to fifteen physicians and four dentists, and charters have been granted to seven dispensaries.

—The editor of the *Philadelphia Medical Journal*, visiting a spice factory, observed that hundreds of tons of marble chippings were being pulverized and used in the manufacture of all sorts of ground spices. Floor sweepings were found to be regular articles of commerce.

—It may not be generally known, says the *Sanitary Record*, that the fluid which surrounds the oyster bears a closer analogy to the gastric secretion than anything else in nature. In addition to the solvent properties of this fluid, it is not without its nutritive properties. Consequently as little as possible of the juice should be lost.

—Dr. John P. Wood, of Coffeyville, Kan., who celebrated his ninety-ninth birthday anniversary on January 5th, has decided to take the lecture platform early this coming spring. He will lecture at first on longevity. Dr. Wood is probably the oldest practicing physician in the world. He is remarkably hale and hearty, and is feeling better now than for many years.

—*The Tribune* states that Dr. John Kost, a physician of Adrian, Mich., who has several times made liberal donations to educational institutions, has given to the College of Medicine of Surgery of Chicago a museum of zoölogical specimens valued at $150,000. The articles filled five freight cars when prepared for shipment.

—Noir reports an immediate cure of an attack of hiccoughing by means of continuous traction on the tongue for one and a half minutes. The patient, a nervous child, had been hiccoughing almost uninterruptedly for six hours. She had failed to respond to the various remedies applied, and was greatly exhausted. There was no recurrence.

—Dudley A. Foster, a musician of St. Louis, believes that one agony can only be relieved by a greater one, and one day recently he put his theory into practice by having his friend, E. W. Meyer, also a musician, play on a piano to relieve the pain of a surgical operation on his foot. In this way the operation was begun, and finally reached an end. After it was all over, Foster said Meyer's music was more effective than chloroform.

—The *Lancet* states that pure cultures of the photobacterium—which is the cause of the phosphorescence of the sea—can be obtained by placing a fresh haddock or herring in a 2 per cent. salt solution and keeping it at about seven degrees above freezing. In a few days the fish and all the fluid give off a pale greenish light, made more brilliant by adding a little sugar. The cultures can even be photographed by their own light.

—The hens of China, in addition to their natural duties, are put to the novel task of hatching fish eggs. Chinese cheap labor collects the spawn of fish from the water's edge, puts it in an empty egg-shell, which is then hermetically sealed with wax and placed under the hen. In a few days the egg-shell is removed, and the spawn, which has been warmed into life, is emptied into a shallow pool. Here the fish, that soon develop, are nursed until strong enough to be turned into a lake or stream.

—An explosion had produced a deep defect in the leg of a young man, which Francesco (*Wien. Klin. Rdsch.*) lined with small scraps of skin taken from the side of the breast under the wing of a spring chicken. The grafts included the derma and epidermis, and nearly all healed in place. The defect was completely lined with this skin in three sittings. It retained its specific vitality for a while, evidenced by the production of one small atrophied feather, but soon healed into apparently normal human skin.

—E. Emith (*Mass. Med. Journ.; Phila. Med. Journ.*) has studied the effects on digestion of food prepared by the use of an alum baking-powder. He concludes that the evidence of his experiments is, that food prepared by the use of a so-called alum baking-powder does not interfere with secretion in the stomach; and, even when it makes up the major part of the diet, it is utilized by the body in the same way and to the same extent as an acceptable control diet. The investigation does not reveal any reason for believing such food at all injurious or unwholesome.

—The discovery has been made recently that camphor, which has been known hitherto only as a vegetable product, or made synthetically by chemists, is produced also by a small animal slightly resembling a worm, though having a number of feet, and known as a diplopod, with the scientific name of *polzonium rosalbium*. The animal is found in Ontario County, New York, and, upon careful examination, it has been ascertained that the substance which gives the odor of camphor is a milky fluid, which is exuded from the dorsal pores. This liquid not only smells but tastes like camphor. The study of the camphor worm, which forms the subject of a paper in a recent issue of *Science*, presents many interesting chemic and biologic problems.

ORIGINAL ARTICLES.

THE TREATMENT OF URETHRITIS IN THE MALE.

BY JAMES PEDERSON, M.D.

Fellow of the Academy of Medicine; Assistant Visiting Surgeon Bellevue Hospital; Adjunct Professor of Genito-Urinary Surgery, New York Post-Graduate Medical School and Hospital; etc., etc.

BROAD general principles and no one method should govern and control us in the treatment of urethritis. That there cannot be one fixed method is fundamental and elementary. It should become axiomatic when we consider the etiology and comprehend the pathology based upon it, and upon the anatomy and physiology of the genito-urinary apparatus.

Cases of urethritis differ according to the region and structures invaded by the micrococci and involved in the inflammatory process; according to the form and virulence of the infection; according to the stage of the inflammatory process at the time when the patient presents himself; and, finally, upon the patient himself—his power of resistance and ability to carry out instructions intelligently. The personal equation of the patients enters into this disease as into any other. What we actually treat is the patient with urethritis; not a "case of urethritis" complicated by the patient.

By all these factors then is the treatment of urethritis influenced and determined: by the pathology, etiology and virulence of the infection, the stage of the inflammatory process and the patient.

Therefore, the treatment must vary. Thus, in acute urethritis, for example, we may or may not put the patient to bed in adition to regulating his regimen; we may or may not prescribe a hand injection of protargol solution at once and, if we do, it may be a one-half instead of a normal strength (one per cent.) solution; we may or may not in addition irrigate the penile urethra; we may or may not practice irrigations alone.

The only routine that may be said to exist at all in the treatment will be found in the method of approaching a case and in the general directions that should be given every patient having this disease. The patient's general condition must be taken into account. We note whether he is anemic; whether disposed to oxaluria or the acid diathesis; and we prescribe accordingly. We see to it that his diet is so regulated as to avoid highly spiced and stimulating articles. We must get him to reduce his alcohol and tobacco, especially the former; and we must restrict him to one cup of coffee a day, preferably taken at breakfast. He must be directed to drink freely of either plain water or an alkaline water between meals. Any tendency to constipation must be corrected. He must wear a suspensory bandage and must be taught to dress the penis properly; carefully avoiding anything that will interfere with the free outflowing of the urethral discharge. Finally, he must be cautioned as to the danger of infecting his eyes. All sexual relations passive as well as active, must be forbidden.

ACUTE ANTERIOR URETHRITIS.

In this stage of this disease we have to deal with either a simple catarrhal or a purulent inflammation, of microbe origin in the vast majority of cases, affecting the muccus membrane, and of the urethra and productive of more or less damage of one or more of the layers and structures composing the same. Disregarding the former—the relatively rarer cases of simple catarrhal inflammation of the urethra due to traumatic or chemic irritation, and confining ourselves to the purulent form, we summarize the stages and the indications to be met as follows:

(1) *The acute stage. The eradication of etiologic micro-organisms.*

(2) *The subacute stage. The termination of the catarrhal discharge.*

(3) *The chronic stage. The repair of damaged mucous membrane.*

(1) *The Acute Stage. The Eradication of Etiologic Micro-Organisms.* In all varieties of acute infections of the urethra, whether purely gonorrhœal or due to a "mixed infection" by the gonococci and one or more of the other pathogenic micro-organisms, or to these last alone—in all a one-half to one per cent. solution of protargol is thus far the most efficacious means at our disposal for this indication. Its use should be begun as soon as the disease has manifested itself—in the prodromal stage if possible provided the microbic character can be demonstrated in the given case. While efficacious in all these varieties of acute anterior urethritis it is in the gonorrhœal that its promptly germicidal properties are most marked. It is almost a specific in these cases. Under the use of such a solution placed in the hands of the patient promptly upon the first appearance of a discharge containing the gonococci we have seen the gonococcus disappear from the pus in two days. During that period the quantity of discharge was increased somewhat; then it began to subside and by the sixth day only the "morning drop" remained. In a case where the patient presented himself nine days after the discharge had begun the gonococci disappeared and the free discharge almost ceased in four days. Similarly in a third case seen fourteen hours after discharges began gonococci were not found after the fourth day and the discharge had diminished to a milky morning drop before the eighth day. Such cases might be multiplied but the above will suffice to illustrate the point.

As a matter of course this desirable and comfortable condition is not permanent at this period. The cessation of the urethral discharge under these conditions never means that the patient is *cured* of the disease. Sooner or later a relapse will occur, if under the erroneous assumption, we now discontinue the protargol solution. The gonococci that penetrated to the deeper layers of the mucous membrane during the period of incubation and there have multiplied have not been destroyed. They have been inhibited only. Left to themselves they again become virulent, and the reappearance of a discharge laden with gonococci is the result. It is, therefore, necessary to continue the protargol hand injections three to four days after the cessation of the discharge and then gradually to diminish the frequency of its use, at the same time being watchful for the reappearance of the gonococcus. Experience soon enables us to judge when the protargol solution may be discontinued. Nevertheless the catarrhal discharge usually present by this time should be examined every few days for gonococci. Their reappearance is the signal for resuming the solution of the drug.

The syringe recommended for hand injections is the ordinary cheap quarter-ounce syringe with glass barrel and soft rubber tip. The patient should be instructed how to use it and to scrub it thoroughly after each use. A solution of protargol should be retained in the urethra five minutes.

If the inflammation excited by the gonococcus, for

example, is of high grade as evidenced by the red and edematous condition of the meatus antiphlogistic measures are indicated in addition; much more so if there is general turgescence of the penis. Here it may be wise, if not imperative, to put the patient in bed also. A wet compress somewhat loosely wrapped about the penis and surrounded by a layer of rubber tissue fulfils the indications as regards the external surface; hot solutions for copious irrigation from the meatus fulfils them as regards the urethra. For the purpose a normal saline solution, a saturated solution of chemically pure boracic acid, a one-half strength Thiersch solution, a one- to five-thousand solution of potassium permanganate, or one of mercuric bichloride, one- to thirty-thousand, may be employed.

The irrigation should be delivered from a blunt glass nozzle gently applied to the meatus. The pressure of the fluid should be low in order to confine the irrigation to the penile urethra. The reservoir of the irrigator should therefore hang at a previously determined moderate height above the patient's hips. If the irrigation be given from a Janet syringe the pressure can be regulated still better.

The value of these irrigations does not lie in the medicament but in the moist heat brought to bear upon the engorged mucous membrane. Through the reduction of inflammation thus affected (which means reduction of the abnormally increased blood supply in the mucous membrane) they rob the etiologic micrococci of the conditions which favor their growth thereby, as it were, starving them to death. A germicidal agent, such as protargol, by its prompt destruction of the gonococci for example cuts short the inflammatory process excited by them and moderates the course of the disease; on the other hand, irrigation destroys the gonococci secondarily by first reducing the grade of the inflammatory process thus indirectly and therefore less promptly attaining the desired end.

In this way is explained the value of irrigations whether used alone as they sometimes are in certain cases of streptococcus infection in which protargol seems not to effect the process, or whether used as an adjunct to the latter in cases of pure or mixed infection. Relied upon alone in the first two varieties of urethritis irrigations do not yield as satisfactory results as does the hand injections of protargol when used according to directions.

In most cases the patient can carry out the irrigations sufficiently well himself if we provide him with tablets of mercuric bichloride one of which dissolved in a fixed quantity of hot water will yield a one- to thirty-thousand solution. Of this he is to inject twenty or thirty syringes full one after the other.

(2) *The Subacute Stage. The Termination of the Catarrhal Discharge.* The micrococci having disappeared, the inflammatory signs having subsided in large measure and the urethral discharge having become muco-purulent perhaps mucoid, and possibly limited to the "morning drop" the treatment as outlined above is continued four or five days longer and then gradually and tentatively withdrawn while a hand injection of a mildly astringent solution is being substituted. From twice a day the protargol solution is first reduced to once a day and then discontinued altogether after another interval of four to ten days depending upon the case; while the astringent solution is simultaneously begun at the rate of once a day, and so continued until increased to twice a day when the other treatment is discontinued. The best astringent injection at this stage is the following:

R. Zinci iodidi..... } aa grains 1.
Zinci chloridi..... }
Aquæ destillati..... q. s. ad ounces 4.
M. Sig.

It should be warmed before use by immersing a syringe full in hot water. It should be retained in the urethra one minute. As already noted the mucoid discharge will bear microscopic examination every four or five days. If cocci reappear resource should be had to the original treatment, or the protargol solution resumed in connection with the astringent.

(3) *The Chronic Stage. The Repair of Damaged Mucous Membrane.* Here silver nitrate in solution is by far the best agent because safest and most efficient. It is brought into contact with the mucous membrane by means of either the Ultzmann syringe or the Bang's syringe sound, or by means of cotton swabs through the endoscope. One to one thousand (one-half grain to the fluid ounce) is a commencing strength for instillation with the syringe sound; this is gradually increased to two or three grains to the fluid ounce. A solution of five grains to the fluid ounce is the first for application through the endoscope. Stronger than ten grains to the fluid ounce is not advised. Generally these instillations and applications are begun as soon as the discharge has become mucoid; it is not necessary to wait for the total disappearance of the "morning drop." Hence their employment dovetails with the astringent hand injections as they did with the protargol *excepting as to frequency.* The instrumentation necessary to their employment, together with the stimulating effect of the nitrate of silver solution, excites a reaction in the mucous membrane. There will be more or less increase in the discharge and some scalding on urination for twelve to twenty-four hours afterward. This reaction must be allowed to subside and the tonic effect of the treatment to have been obtained before the mucous membrane should be subjected again to this unavoidable excitation. It is important to avoid over-stimulation of the urethra; therefore it should be carefully noted that no form of local treatment by instrumentation should be repeated oftener than once in five days—in some cases only once in seven days. (To this rule there is an exception; it will be mentioned later on.) As a matter of course all instrumentation of the urethra should be practiced with the utmost gentleness.

The Bangs' syringe sound has a great advantage over the Ultzmann syringe in that it gently opens out the folds in the urethral mucous membrane for the reception of the twenty or thirty minims of nitrate of silver solution that are instilled into the urethra from the syringe when the point of the sound has reached the objective spot. By means of the endoscope we search out and make application directly to the damaged points, *e. g.*, granular patches, zones or areas of chronic congestion and superficial erosions.

We have now to determine when the astringent hand injection may be discontinued. Our aim is to dispense with it as soon as possible. We test the question by reducing the frequency of its use and then stopping it altogether and noting the result. If the catarrhal discharge increases to more than the "morning drop" and persists thus for three days we have the patient resume the astringent. After an interval of a few days we again apply the test.

In much the same way we begin now to taper off the instillations and applications that have been continued steadily meanwhile. When the "morning drop" has entirely disappeared and the urine shows only transparent mucus shread suspended near the surface or, at

most, one or two light shreads or flakes slowly settling toward the bottom, all treatment should be discontinued and the patient told to report in ten days for inspection. When finally dismissed he is cautioned that he is liable to a return of the catarrhal discharge any time within six weeks if he disobeys any of the general directions given him at the outset. The duration, *i. e.*, the time under treatment, of an initial, uncomplicated, acute anterior urethritis, seen early in its development, is exceptionally three weeks. Usually it is four to six weeks, depending upon the several factors previously enumerated. To quote Neisser, "It is not the rapidity but the *certainty* of the cure that is sought."

As to the complications of acute anterior urethritis, the three most likely to protract its course are peri-urethritis, follicultitis (possibly resulting in peri-urethral abscess) and cowperitis.

Chordee is a symptom of the acute stage of peri-urethritis, or cellular infiltration of the submucous tissue. It calls for antiphlogistic means locally—especially hot irrigations and such drugs as the bromides and antipyrin internally. The diet must be of the blandest. The patient should sleep lightly covered. In the chronic stage irrigations, gradual dilatation and topical applications with nitrate of silver solution are indicated.

Usually folliculitis escapes detection during the acute stage. There are several methods of treating it in the chronic stage, all having for their object the mechanical expression of the morbid contents of the follicles and the introduction into them of a medicament. Thus: irrigations with one- to thirty-thousand mercuric bichloride solution under some degree of pressure; distension of the penile urethra with a one- to one-thousand solution, of nitrate of silver, a one per cent. protargol solution, or a five per cent. solution of iodoform in sterile sweet almond oil, and then massage of the urethra from the meatus backward by means of gentle pressure with the fingers; the passage of a moderate sized sound lubricated with Finger's ointment and massage of the urethra against the sound. The formula for Finger's ointment is:

R.	Iodini.....	5 grains.
	Ol. olivæ.....	½ drachm.
	Potasii iodidi.....	30 grains.
	Lanolini	q. s. ad 1 ounce.

M. Sig.

Peri-urethral abscess and cowperitis, call for antiphlogistic measures applied externally and incision as soon as fluctuation is present.

ACUTE POSTERIOR URETHRITIS.

As soon as the posterior urethra has become invaded it is well to put the patient to bed, if possible. Fortunately most of these cases are marked by a day or two by very slight frequency and possibly urgency of micturition which does not make this degree of rest imperative and which does not call for any special treatment beyond the general measures already enumerated. Again there is a second class of cases marked by symptoms of sufficient severity to require relief. This may be obtained by irrigation from the meatus gently and yet with sufficient pressure to carry the fluid into the bladder. This maneuver can be facilitated by having the patient's thighs slightly flexed. The fluid may be any one of those, given under acute anterior urethritis. Between two and three ounces should be injected in this way into the bladder and the patient then allowed to stand up and void it. Fnally there is a third class of cases, namely those in which the symptoms are a marked frequency and urgency of urination with tenesmus and blood at the end of the act. For local treatment we at once instill from fifteen to twenty minims of a one to one thousand solution of silver nitrate into the deep urethra disregarding all other conditions. If the patient can be kept in bed, under our control, stronger solutions up to five grains to the fluid ounce may be given. The relief that, after a few hours follows the temporary aggravation of the symptoms is surprising. For this instillation we may use a soft rubber catheter, the Ultzmann syringe or a Bang's syringe sound of 20 French. Unless the surgeon is skilled in the passing of urethral instruments, and unless he is prepared to use the utmost gentleness and caution, the smooth, blunt pointed soft rubber catheter should be the instrument chosen. Naturally the penile urethra is exquisitely sensitive and may have to be anesthetized with a 2 per cent. solution of eucaine before the introduction of any instrument is possible. If the first instillation proves successful it may be repeated every second or third day if the indications return, this being the one exception to the rule regarding the frequency of instrumentation during the treatment of urethritis.

As to the complications of acute posterior urethritis, urethro-cystitis, epididymitis, prostatitis, and seminal vesiculitis are the immediate ones. To go into a detailed description of the treatment of each of these would carry this paper beyond the prescribed limits. Briefly they are to be treated according to well-known general principles. In all cases the primary indication is to place the patient in bed and have the diet and bowels carefully regulated. Urethro-cystitis is managed as is acute posterior urethritis of the first and second grades. For epididymitis perfect support of the testicle, counter-irritation, the ice-bag, or poultices are indicated. Acute prostatitis and seminal vesiculitis should be carefully watched for signs of suppuration. To avert it we may apply cold, preferably by means of a rectal psychrophore, or heat by means of hot rectal irrigations with a normal salt solution heated from 100° to 120° F. administered through the Kemp or Chetwood tube. If the introduction of the instrument cause excessive pain, this treatment should be discontinued and cold or heat applied externally. The vast majority of these cases go on to resolution. If, however, an abscess forms it should be evacuated through a perineal incision to avoid a possible rupture into the bladder or rectum or both.

CHRONIC URETHRITIS. (ANTERIOR AND POSTERIOR.)

The management of a patient with this form of urethritis and the treatment of the local conditions are practically that of the chronic stage of anterior and posterior urethritis preceded by a critical examination of the urethra and its accessory parts for contributing causes and complications such as redundant prepuce, phimosis, infected prepucial follicles, narrow meatus, stricture, chronically infected urethral follicles, chronic cowperitis, prostatitis and seminal vesiculitis.

An infected prepuce had best be removed by circumcision. A narrow meatus may require meatotomy. The treatment of stricture whether organic or spasmodic is too broad a subject to admit of discussion here. Briefly, organic strictures should be dilated whenever possible and, at the same time, the surrounding congested perhaps granular mucous membrane should be treated by topical applications of nitrate of silver solutions. Should dilatation fail urethrotomy may be performed. Spasmodic stricture calls for restoration of the urethra in

general to as near the normal state as possible and careful attention to the quality of the urine. Chronically infected follicles call for the same treatment as given under the complications of acute anterior urethritis. Chronic prostatitis and chronic seminal vesiculitis, unless of very long standing, will be much benefited by hot rectal irrigations. In addition they call for massage by means of the finger introduced into the rectum. The irrigations may be practiced every day at first and later every three or four days according to indications. The digital massage, however, should not be repeated oftener than once in five to seven days and should be discontinued altogether for a time if it aggravate rather than relieve the condition. Such an aggravation would mean that the inflammatory process in the organs was too acute as yet to admit of massage.

FIVE YEARS' EXPERIENCE WITH THE ANTISEPTIC TREATMENT OF TYPHOID FEVER.

BY J. A. CROOK, M.D., JACKSON, TENN.

IT will probably be remembered by some of you that I read a paper before this society, at its meeting in Chattanooga, four years ago, on the "Rational Treatment of Typhoid Fever," in which I took a strong position in support of the value, in this disease, of the antiseptics in the guaiacol compound mixture first suggested by Woodbridge.

It will be remembered also, by those of you at the annual meeting in Nashville, three years ago, that I further elucidated the idea by showing that carbonate of guaiacol was not taken up from the alimentary canal, but that it passed through as taken in, and hence reached the site of the disease; that it was non-irritating to the mucous membrane of the stomach and bowels, and could be given in large enough doses to disinfect the bowels without detriment to the patient. In three succeeding years which have elapsed I have found no reason to change the opinions then expressed. In fact, having had a much wider experience in the treatment of numerous cases, I am more convinced than ever of the soundness of the principles underlying the antiseptic treatment of typhoid fever. In giving the statistics I am aware that I will be met at the very threshold with the "doubt of the correctness of the diagnosis," as this is the dispute on which hinges the results of the treatment. On this point Elisha Bartlett said, in 1842: "There is no one symptom, there are no two or three symptoms which in themselves are characteristic of the disease; there is no one symptom, there are no two or three symptoms usually occurring in the disease, which may not be absent during its entire progress. The evidence upon which our verdict is to be rendered is wholly circumstantial. Notwithstanding all this, it is still true that there are few general diseases the diagnosis of which is so well established, and so certain, as that of typhoid fever."

In discussing the diagnosis of typhoid fever at the New York State Medical Association, October 25, 1899, Dr. Wm. Osler, the great apostle of the opponents of this method of treatment, says: "I come now, Mr. President, to the only part of the subject worth discussing at the present, to take up the really serious question of the diagnosis of typhoid fever from the malarial fevers. During fifteen years' practice, in the middle region of the Atlantic coast, I do not remember to have seen, in consultation, in town or country, a single instance of continued fever, disagnosticated as malaria, which did not prove to be typhoid fever. I have, myself, been scolded as too shockingly dogmatic on the subject, but I protest that, dogmatic as I have been, I have not been dogmatic enough. Combined infection with the typhoid and malarial germs is excessively rare, so rare, indeed, that only a single instance has been met with in the Johns Hopkins Hospital in ten years, among nearly 1,000 cases of typhoid fever. It is to be hoped that the pernicious term, typho-malarial fever, has been forever banished from our nomenclature. But, after all, in any discussion on typhoid fever the appeal must be made to the hard-worked practitioners of the country towns and districts, who find it very hard to take advantage of modern scientific methods of diagnosis. They must rely, in great measure, on experience and common sense, and to them I would say, in conclusion, learn to suspect typhoid fever, and not malaria, in every case of fever of six or seven days' duration, particularly if it resists the action of quinine.

"It is high time now that you adopt the Gallic usage, and regard every case of continued fever as guilty; that is, as a typhoid, until the contrary be clearly demonstrated."

While I do not claim infallibility in making a diagnosis of this disease, I have never gone so far, or been so strenuous and dogmatic in my contention; as Dr. Osler here claims. But as the bar of statistics is the only tribunal before which the efficacy of any treatment must be determined, I proceed to give such as has occurred in my own experience in the last five years, and the claims of some other authorities bearing on the subject.

During the years 1895, 1896 and 1897 I treated sixty cases, with three deaths. Since that time I have had under my care forty-nine cases, without one death. I was called to see the case that died August 25, 1899; found him with a pronounced case, symptoms all well marked, and that he had been confined to his bed for about a week. Under drainage and antiseptics, with occasional sponging, his condition soon became more favorable, until the morning of September 7th, when his temperature reached normal. I dismissed him on the 10th of September, as he was convalescing. On the 12th of September he ate an orange, swallowing the stringy substance entire. On the 15th I was again called to see him. I found that he had greatly improved since I last saw him, but as his fever was up to 102° I stated to his family that I feared he had relapsed, and unless the fever was due to some digestive disturbance it would continue for an indefinite period. His condition progressed slowly till the 24th, when delirium and evidence of brain trouble developed. On the morning of the 28th he passed a large orange seed, shriveled and discolored, that had evidently been lodged in one of the intestinal ulcers since soon after it was taken in his stomach, on the 12th, sixteen days before. He died on the night of the 28th, in profound coma. Thus it will appear that in the last five years I have treated 109 cases, with four deaths.

Of the cases that died, two were not under my care nor the antiseptic treatment till late in the disease, they having been attended by other physicians fifteen to twenty days before I was called. The disease being far advanced, they died during convalescence, from perforation of the bowels. The other two that died were under my care from the start, that is, I was the first physician called. Both of these were dismissed by me when convalescing. They both, after eating imprudently, relapsed and died. One having eaten fried squirrel, a hemorrhage set up in the bowels, and he never called me in till he was in collapse. The other ate the orange,

as here reported, seed and all, and a large seed remained in his bowels sixteen days, till the day he died, though his bowels moved sufficiently all the while. The mortality, taking all cases treated by me, whether later or from the beginning, was less than 4 per cent. In the cases treated from the beginning it was less than 2 per cent. The line of treatment in all of these cases was by opening the bowels freely, at the beginning, with small doses of calomel and soda, and followed from the start with guaiacol, eucalyptol, thymol, and menthol, as suggested by Woodbridge, except in many cases I gave as much as 5 grains of guaiacol at a dose, repeated every three or four hours. In the first week of the disease phenacetin, combined with caffein citrate, was used to control temperature, afterwards sponging with cool water when the fever rose above 102°.

Under no other treatment have I seen such results, and the condition of my patients kept so comfortable all the while.

While it is claimed by some that the good effects of this combination are due to the guaiacol carbonate, I am sure that the other remedies are fine adjuvants. Thymol is a fine intestinal antiseptic, and was recommended by DaCosta and others for typhoid fever more than ten years ago. Eucalyptol is on the order of oil of turpentine, which has been so long used, it having been extolled by Prof. George B. Wood nearly fifty years ago.

The American Journal of the Medical Sciences for January, 1900, extracts from the *New York Medical Journal* for 1899, page 233, "a report of forty-three cases of typhoid fever treated by Dr. E. C. Senfert, without a death, and in twenty-three of the cases the diagnosis was confirmed by the Widal test. The medicinal treatment consisted in elimination and intestinal antisepsis. Calomel, 1 gr., sodii bicarb., 2 grs., and sugar of milk 1½ grs. was given, irrespective of constipation and diarrhea, every two hours, for one day. Salol, naphthaline and guaiacol carbonate were the antiseptics used, and they were most satisfactory. The hydriatic measures were a sponge bath when temperature rose above 102.5°. The average duration of the fever was twenty-one days."

The "Twentieth Century Practice," Vol. 16, says: "Thistle, in one of his recent papers, reports 172 cases treated by himself and other physicians, in Toronto, according to his method, with five deaths, or a mortality of 3 per cent."

Dr. Brannam, of New York, reports in the "Twentieth Century Practice" seventy-eight cases treated by himself and colleagues in New York. He says:

"The above report and analysis of cases show, as I have already stated, that this method of treatment does not abort the disease, nor does it always prevent death. On the other hand, the rate of mortality is not high, there being but six deaths in the total number of eighteen cases, or 7.7 per cent. The results, so far as the mortality is concerned, compare very well with the cold bath treatment. There was also a noteworthy absence of complications. Excluding the two cases in which pleurisy, with effusion, was present when the patient entered the hospital, not a single complication occurred among the seventy-eight cases. The absence of intestinal hemorrhage in the seventy-two patients who recovered testifies strongly to the harmlessness of active purgation in typhoid fever, especially when we consider the advanced stage of the disease at which many of the cases came under treatment. In several other respects I have been favorably impressed with the treatment. In a number of the cases under my care delirium and somnolence were marked at the time of entrance into the hospital, but in every instance subsided in a few days, as promptly, in fact, as under the use of cold baths. Tympanites also disappeared very rapidly, never calling for any special treatment. The patient, in a word, did well, much better than under simple expectant treatment, and fully as well as under the Brandt method, as I have seen it applied in the hospitals of this country. The *principles underlying* the *antiseptic* and *eliminative* treatment seem to me to be *sound*, even though the results fall short of the claims of its chief advocates."

Dr. T. V. Hubbard, in a paper read before the Georgia Medical Society, in April, 1899, reports, in a number of cases, a success of 100 per cent. His treatment consisted of calomel and guaiacol carbonate, combined with minute doses of podophyllin.

Dr. William H. Thompson, in the *Medical News* of December 16, 1899, page 815, says: "We have learned so to treat typhoid fever that the death-rate is comparatively low. Of 344 cases that have been under my care for more than a week at the Roosevelt Hospital, only 3 per cent. died.

THE TREATMENT RATIONAL.

Dr. Frank S. Johnson, of Chicago, in *Journal of the American Medical Association*, February 24, 1900, page 459, says: "The plan of treatment by intestinal antisepsis was the natural deduction following the discovery of the specific cause of the disease. In the selection of an antiseptic several problems present themselves: (1) The antiseptic should be one which will destroy the specific germ, together with the pathogenic and saprophitic organisms; (2) one which will be locally harmless to the tissues; (3) one which will be non-toxic to the patient."

On this point the "Twentieth Century Practice," Vol. 16, says: "Beta-naphthol is a powerful germicide. It is but slightly soluble in fluids, and, therefore, reaches the intestine undecomposed. It is also non-toxic, and said to be non-irritant, in doses sufficient to exert an antiseptic and disinfectant effect on the bowel. Under its use abdominal pain and meteorism diminish, the tongue becomes clean and moist, and the passages lose their offensive smell."

The same author says: "Thymol is a very efficient intestinal antiseptic," and that "salol is a very valuable intestinal antiseptic." Under its use the tongue cleans rapidly, and the stools lose their offsensive odor." He also says: "Under the use of intestinal antiseptics the course of the disease is rendered milder and its mortality lessened."

So this author makes it clear that you can disinfect twenty-five feet of bowel without injury to the mucosa or detriment to the patient. Dr. Fritz Hölscher, *American Journal of the Medical Sciences*, January, 1900, speaking of guaiacol carbonate and creosote carbonate, says: "These are not merely symptom remedies, but they act directly upon the cause of the disease, in that by impregnating the body with creosote combinations they influence unfavorably the conditions of life of the cause of the disease, and later improve the symptoms by eliminating poisonous products of retrograde metamorphosis. The discoloration of the urine is not a symptom of poisoning, and should not alarm the patient.

In the *Medical News*, December 16, 1899, Dr. Andrew H. Smith strongly recommends the administration of antiseptics by the mouth, to destroy, and prevent the multiplication of the pneumococcus in the air cells of the lungs in pneumonia. If this is rational, how much more so is it that such remedies introduced in the stomach will

destroy and arrest the development of the germs of typhoid in the alimentary canal.

But while the claim that typhoid fever can be aborted by the administration of purgatives and antiseptics can hardly be proven, yet, in the words of Dr. Quine, of Chicago, "it by no means follows that intestinal disinfection and drainage are either unscientific in theory or useless in practice." Such a view would be controverted by an overwhelming majority of the physicians of the country.

While it is undoubtedly true that the best results will be obtained if this method is begun early, and persisted in, it is, nevertheless, clear to the mind of every one at all familiar with the principles of surgery, that it is only the more important to follow it up after the mucosa has been exfoliated, and the glands of the intestine converted into open ulcers.

Now, in conclusion, I wish to say that I have never treated a single case according to the method of Woodbridge or the Brandt method; they both seemed to me to advocate measures that were extreme and an unnecessary worry and annoyance to the patient, the former by the oft-repeated administration of very small doses of the medicine, the latter by the too frequent use of the cold bath, when simply sponging with cold spring water would accomplish what is desired. Yet it is evident to my mind that a judicious combination of the principles advocated by both offers the best results hitherto obtained.

Finally, I have shown, by my own experience as well as that of others, whose professional standing and skill cannot be questioned, that the use of intestinal antiseptics in typhoid fever is scientific and rational. That under their use the patient is rendered more comfortable, the symptoms are all ameliorated, the disease rendered milder and its course shortened; and, best of all, the mortality very much lessened. If this be true, then it follows that that physician who, when called to treat a patient with typhoid fever, fails to drain the alimentary canal, and sterilize it with these harmless germicides, and, instead, stands by and only applies cold water to the surface while the germs and their toxins are destroying the life of the patient within, is as deserving of censure as would be the surgeon who would fail to thoroughly drain a suppurating septic wound and sterilize its cavity with the proper antiseptics.

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NASAL DISEASES AND THEIR DIFFERENTIAL DIAGNOSIS

BY DAVID H. STEVENSON, M.D., RICHMOND, INDIANA.

WHAT the bogey man is to the child of superstition, so is the term catarrh to many patients. They repeat to every physician the hopeless, self-answered question, "Doctor, catarrh cannot be cured, can it?" In order to answer such a question there must first be made an exact and critical diagnosis.

For nasal examinations it will be unnecessary to call much attention to the need of having a good light, freely movable, a proper mirror and speculum. But it is in place to urge the darkening of the walls of the examination-room as much as possible.

In differential diagnosis the varied use of different forms of probes is of the greatest importance. The nasal probe is the rhinologist's finger. It permits us to decide the density of each structure as well as the exact dimensions of each part; the length and width of each turbinate as well as the dimensions of each part. The length and width of each turbinate, as well as its height, both on its lateral and septal sides can thus be found. The length of the septum, distance of Eustachian tube, as well as the dimensions of the naso-pharynx can also be registered. The nose probably varies more in its architectural dimensions than any other organ in the human body. The two sides are seldom symmetrical, while in two brothers one may easily be double that of the next.

No examination of the nose is complete without the use of the rhinoscopic mirror, which enables the posterior one-third of the nose, as well as the naso-pharynx, to be seen.

The history of the patient in regard to mouth breathing, night-mare, dreams, headache, vertigo, night-sweats, twitching, deafness, cough, loss of smell or taste, or speech is all-essential in diagnosis. Inspection may reveal peculiar facial expression, redness of external nose, defective development, or eye or ear complications. Patients often have not noticed their symptoms, although suffer from the same. Unless their attention has previously been called to it, they may not be able to state what effect the weather has upon them or what time during the day the tongue is dry, or which side of the nose is the most obstructed. By holding a piece of cotton, with the thumb so as to close each nostril separately, the amount of movement in the overlying strand of cotton will decide the amount of obstruction. If the obstruction is posterior the voice is much worse than if anterior, and words with *n*, *m*, and *ng* are apt to be sounded like *b*, *d* or *gg*.

The order chosen in examining the diseases or conditions in the nose may be, the alæ and septum, the inferior meatus and turbinate, the middle meatus and turbinate, the accessory sinuses, the naso-pharynx. Paralysis of the nasal muscles sometimes accounts for the collapse of the alæ nasi.

On first looking into the nose there is sometimes noticed a localized and peculiar little disease, called rhinitis anterior sicca, only situated over the tubercle of the septum. This little disease is the cause of the largest number of nasal hemorrhages. The disease, I think, is generally due to the sandblast action of dust on a weak mucous membrane unduly exposed over the tubercle.

We may divide diseases of the septum into inflammatory and non-inflammatory. The first includes septic ulcers, chancre, glanders, tuberculosis and lupus. The second includes spurs, ridges, neavus, erection of tubercle, deviations of septum, dislocation of columnar cartilage, hemotoma, rhinoscleroma, innocent growths like osteoma, enchondroma, fibroma, myxoma, angioma, papilloma, also malignant growths like carcinoma and sarcoma. In inflammatory septal conditions, it is well to note whether there are ulcers or not. A chancre will have its edge undermined, sharp-cut and everted and often with an offensive discharge. Glanders will show a thin, bloody and fetid discharge, with headache and great prostration. Where there are sudden occlusions from injury, there is apt to be either a septal abscess or hematoma. The first will show a localized temperature, while the second is not apt to show, at first much inflammation. With the gumma there is ordinarily no

history of injury, and it is at first hard and then shows signs of softening. A deviated septum as well as a dislocation of the anterior end of the septum from the columnar cartilage will show a concavity on one side. By turning the nose from side to side the end of the septum may be felt by the finger, thus deciding whether there is a dislocation. If there is a healthy mucous membrane the obstruction is apt to be either an enchondroma, a ridge, or a spur. Inspection and the use of the probe will differentiate these.

A nævus from its peculiar color and history since birth, may contrast with lumpus, which is apt to be covered with brownish scales. The history and results of treatment will enable us to discriminate from syphilis. Rhinoscleroma is much harder and of more natural color. Angioma is of slow growth, while if it pulsates it is apt to be an arterial neavus. Rapid growths, like cancer or sarcoma, are best decided by the microscope. The sarcoma is not so apt to bleed with probing. Papilloma has the wartlike or cauliflower appearance. Fibroma is free from tenderness, but bleeds on probing.

In regard to the turbinates there is a swollen or apparent hypertrophy due to adenoids or posterior obstruction or accessory sinus suppuration which requires attention and treatment applied to the cause and not the effect. Hypertrophic rhinitis in appearance may resemble intumescent rhinitis or turbinal varix. Simple chronic rhinitis and the intumescent form are reduced by cocaine. Hypertrophic catarrh, or better hyperplastic rhinitis, when viewed by a rhinoscopic mirror, is often found with a central bilateral swelling on each side of the septum and a white grubworm-like swelling at the end of the inferior turbinate. All the forms of turbinal enlargement ought to be observed closely on different days and the effect of position, temperature and nervous variations noted, if possible. Heart disease and vaso-paresis due to a dissolute life may account for some forms of cyanotic and intumescent rhinitis. Drugs acting on the heart, vaso-motor and nervous system may be more in place than mutilating operations.

There are a large number of diseases of the turbinates that I have not space to consider, such as polypus, papilloma, necrosis, tubercle, lupus, gumma, rhinoscleroma, actinomycosis, and rhinoliths. Some of these have been referred to as diseases of the septum. Yet here I may draw attention to the common occurrence of cysts in the anterior end of the middle turbinate. The lateral portions of the tubinates cannot be seen and often the probe ought to be used to turn out the obstructing masses and bring them into the field of inspection and probable removal.

In the accessory sinus diseases the use of trans-illumination is of great service. It is surprising how often under close inspection pus may be found in the nasal cavities. Except in atrophic catarrh the great majority of these cases of pus formation are due to accessory sinus trouble. In many cases of neuralgia, frontal pains, etc., pus may further be found by using negative Politzerization. If the pus is thickened, or the parts swollen so that pus in the antra does not become visible in the nose, by having the patient turn the diseased antrum upward the air drawn out of the nose by suction from a Politzer bag, pus is almost sure to show. If there are, both pus and gas in the cavity, by turning the head so that the pus lies over the opening when the negative Politzerization is used, it gives the enclosed gas a chance to expand and drives the pus downward past the obstruction.

There is no doubt that a large majority of the persistent neuralgias and reflex neuroses are due to sinus troubles, and in the future we may well hope that much gain will be made by further advance in the new fields of sinus diseases.

A CASE OF CHOLEDOCHOTOMY OF IMPACTED STONES.*

BY HOWARD LILIENTHAL, M.D., NEW YORK,
ATTENDING SURGEON, MT. SINAI HOSPITAL.

THE subject for operation this afternoon is a woman, 35 years old, who was admitted to the hospital five days ago, suffering from disturbance of the gall-passages which caused, as you see, a general jaundice. She has told us that six years ago, after childbirth, there was a similar attack accompanied by jaundice. This resulted in recovery, and she has been well until three months ago, when aching pain in the epigastrium, shooting through to the back, appeared. The pain is not constant, but disappears for a day or two and then returns for a similar period of time, gradually subsiding. There has been no actual colic or vomiting, but there has been much distress after eating. Cathartics have relieved the constipation. The urine contains bile, but the stools are not distinctly clay-colored. The jaundice, indeed, has not been permanent during this period of six months, but has recurred with each successive attack. As you may observe, she is poorly nourished, as might be expected from the loss of appetite, which has been a feature of her recent trouble. There has been some fever, the temperature just before the anesthetic being 101°. Under anesthesia, as you will note, the liver can be easily palpated, and extends about two fingers' breadth below the free border of the ribs in the mammary line, thence horizontally until it meets the border of the ribs on the opposite side.

On account of the slight dulness and diminished breathing over both apices I have selected chloroform as the anesthetic of choice in this case, and I note that both recti above the umbilicus are constantly contracted and firm, so that a deep anesthesia is necessary to relax them and permit a satisfactory palpation.

The epigastric pain, with the accompanying boring pain in the back, together with the fever, jaundice, and the distinct history of remissions, leads to the diagnosis of common duct obstruction which, at times, seems to be partially relieved. One important symptom of biliary pain is lacking here; I refer to the well-known shooting sensation in the right shoulder. However, we are fully justified from the picture presented in performing his exploratory operation with the strongest probability that we shall find and remove the cause of the disturbance

I will make my incision a curved one in its upper portion, rudely parallel to the free border of the ribs for two inches, and thence carried down in a straight line over the outer border of the right rectus muscle for about two inches further. On reaching the muscular fibers of the rectus a blunt retractor is hooked into the border of the muscle, and it is drawn strongly toward the median line. The incision through the posterior structures is made, as it were, behind this muscle. If it is necessary to enlarge the incision downward the muscle need not be cut, but if the wound must be enlarged upwards, a transverse division of a portion of the upper part of the rectus muscle will give us plenty of room and the resulting cicatrix will be a firm one, hernia in this region being almost unknown. Upon palpation

* Delivered at Mt. Sinai Hospital, New York City.

with my right hand within the abdominal cavity I can distinctly feel the gall-bladder, and, if you will look into the wound, you will find that the viscus is brought easily into view. Its walls are thickened, but it is quite evident that it contains no stones, and that the thickening is due to the hypertrophy on account of the extra strain from the habitual overcoming of unnatural resistence in the ducts. The cystic duct is also empty. On passing my left index-finger in along the gall-bladder and cystic duct through the foramen of Winslow I can feel a hard tumor, apparently in the common duct, about one-half an inch from the duodenum. The mass is about as large as a pigeon's egg. It is very important in working in this region that one should not be hampered for want of room. I will, accordingly, enlarge the incision in its transverse portion when, as you see, the semi-circular flap, on retraction, gives an excellent exposure, permitting accurate manipulation with the aid of sight. Because, on incising the duct we may expect bile, more or less infecting, to flow, it becomes imperative to pack away the viscera, with the aid of gauze, as a precaution against contamination. Just here I beg to call attention to the method of using these packings. We do not count the pieces of gauze; we do not use sponges; we do not use gauze packs, with strings attached; but we use long, thick folded pieces of gauze, and not more than one-third of the packing is ever placed within the abdominal cavity. The other two-thirds being outside in plain sight. This simple method, though somewhat wasteful of gauze, is an absolute safeguard against the accidental leaving of pieces of gauze in the abdomen to make serious subsequent trouble and, perhaps, even cause the death of the patient. I have now placed the packings carefully, so that only the part which is to be operated upon is exposed. With the fingers of the left hand behind the tumor I push the mass forward and, while my assistant raises the omental tissue in front of it between two forceps, I carefully dissect down through this tissue until the tumor is in view. I now feel that this tumor is almost certain to prove to be a stone, or perhaps several stones, in the common duct. While the tumor is still pushed forward by the fingers of my left hand I will encircle an area about two-thirds of an inch in diameter with a silk purse-string suture, put in with a hemostatic needle. The walls of the duct are very much thickened and very tough, so that they lend themselves nicely to this mode of treatment. The sutures are now in place, and while my assistant raises the encircled area of the duct wall between two mouse-tooth forceps, an incision with the knife is made into the lumen. There is quite a little gush of bile and, from the fact that one small faceted stone is extruded, we may be sure that there must be others present. With a spoon I am easily enabled to remove this tumor, which turns out to consist of eight or nine smal faceted stones. On exploring the duct in the neighborhood I am able to withdraw ten or twelve other stones, which apparently did not form a portion of the tumor, but which were lying, as it were, loose in the common duct behind the impacted mass. There is a very profuse and free flow of bile, so, having succeeded in our operation, we will tie the purse-string suture, after tightening it carefully. My assistant, during this procedure, is inverting the edges so that the peritoneal surfaces may be in contact when the suture is tied. Nevertheless, I have placed a few extra silk sutures in the walls of the duct in order to secure the purse-string.

The operation is now finished. A long drain of gutta-percha tissue, with a central core of gauze, is inserted down to the wound in the duct, and all the other packings are removed. I feel quite safe in doing this as there is not a particle of leakage at present, and I see no reason why, in such tough tissue as the walls of this duct, we should fear the cutting out of the sutures. Therefore, with the exception of this drain, we will close the abdominal wound, with through-and-through sutures of silkworm gut, and apply a dressing of dry gauze.

Final Report.—Twenty-nine days after the operation the patient was discharged from the hospital in excellent general condition. Her wound entirely healed. Her convalescence was characterized by but one complication, namely, a post-operative nephritis accompanied by vomiting, which was treated with stimulants, diuretics, and the daily administration of fifteen grains of urotropin. Five days after the operation the drain was removed and the wound repacked with small strips of gauze, which were laid in through a urethral endoscope. Eight days following the operation the sutures were removed, the wound being primarily healed, with the exception of the drain-opening.

PYELITIS.

BY J. HERRINGTON BEYNON, M.D., NEWARK, N. J., SURGEON TO ALEXIAN BROS. HOSPITAL, PHYSICIAN TO ST. JAMES HOSPITAL.

PYELITIS, or surgical kidney, is an inflammation and ulceration of the kidney pelvis. When the kidney structure or parenchyma is involved, it assumes the name of pyonephritis. If any small or one large abscess cavity fill or replace the destroyed parenchyma, the term pyonephrosis is the one most descriptive.

The etiology of this affection is manifold; *i.e.*, diphtheria, tubercle, stone, ureteral obstruction, cystitis, metastatic or miliary abscess, or pyemia, specific fevers, traumatism, blood clots, parasites, one and all are causative.

The symptoms of this trouble are as multitudinous and varied as its cause, the most constant of which are pain, regional tenderness, turbid urine, and fever, which frequently assumes a hectic or typhoid type.

A trace of albumen is generally found, and in pronounced cases, pus, blood, and albumen are apparent to the unaided eye.

The symptomatic ensemble is, of course, influenced, and sometimes overshadowed, by the primary condition

Should the disease become chronic, a complexus of nervous symptoms arises, which has been aptly named ammoniemia, due to the absorption of decomposed urinary substances, and resembles diabetic coma.

Having excluded, if possible, nephritis and urethritis, the diagnosis depends largely upon the clinical history and picture.

It is difficult at times to spot the affected organ. As an aid thereto, Pawlok and Kelley practice catheterization most successfully on women. An obscure case in our own practice was for a long time a source of speculation, so confusing were the symptoms. Fever and turbid urine, in which were demonstrated all the morphological elements of pyelitis, followed by a period of variable length, and characterized by a total absence of pathological indications, and accompanied by the discharge of average quantity of normal urine.

We had administered the usual therapeutics without result, and as good surgery did not permit of inter-

ference upon evidence so vague, we rested our oars and did nothing; in other words, allowed our patient all the advantages of the "expectant treatment." We should add that patient frequently suffered with retention of urine requiring relief, using for this purpose always a soft rubber catheter, but one day the soft rubber catheter failed to enter the bladder and a metal one was substituted. What was our surprise and gratification to feel that peculiar and characteristic "click" made by the contact of a catheter or sound with a stone. This discovery, immediately following the reappearance of all pyelitic symptoms, revealed their cause, and dissipated in a moment the pathological mist through which we had so long been unable to see. Of course it was obvious that we had a complicated case of pyelitic nephrolithiasis to deal with. Patient was at once placed upon the treatment of Van Noorden and Strause, *viz.:* calcium carbonate, 30 grains, thrice daily. It is claimed theoretically that the calcium unites with the acid phosphates in the intestine, and thus reduces the deutoro phosphates in the urine, leaving the protophosphates to dissolve the uric acid. This treatment accomplished little as a preliminary measure, and as patient was steadily losing strength and weight, we were brought face to face with the cold, indisputable truth that, unless he submitted to operation, and that soon, his life expectation was short. He was finally persuaded, and, in company with Dr. A. Wendel, of this city, we removed three dentritic calculi from the pelvis of the left kidney, and four others from the bladder, patient making a good recovery within five months. The Noorden and Strause treatment was subsequently renewed, this time successfully.

The retention of urine was undoubtedly reflex, due to stone. A strange feature of this case was the absence of the usual pain accompanying passage of a stone sufficiently large to obstruct the flow, to the best of my knowledge, for days at a time. (At intervals he would pass large and excessive amounts of turbid urine, which, in the light of subsequent knowledge, was pathognomonic of pyelitic nephrolithiasis.)

The diagnosis of the disease largely depends upon the cause, much upon the doctor.

Treatment also depends upon the cause; remove it, if possible.

"Primary inflammation must be diminished, urethral stricture and enlarged prostate removed, infectious fevers judiciously handled, and irritating diuretics withheld."

Potass. citrate, uva ursa, buchu, pichi, soothe and help.

Alkaline waters skimmed, and buttermilk, are serviceable. Blisters over the kidney are of occasional benefit.

Salol, in the chronic type, will relieve certain symptoms.

Practically, however, after pus has once formed, none of the above-mentioned remedies have much influence.

Since the results of medical treatment are so unsatisfactory, the only recourse is a surgical operation. Of these, nephrectomy is the one of choice. Either simple incision of the kidney, with irrigation and packing with iodoform gauze and suturing sack to the wound; or, if there remain enough healthy parenchyma, resection of the kidney. If, subsequently, pus forms, secondary nephrectomy is indicated.

—There is no such thing as a tonic or strengthening medicine: the soul source of strength is oxidizable food, and bitter medicines can only give strength by improving the appetite.

INTRAVENOUS SALINE INJECTIONS AS A VALUABLE ADJUNCT IN THE TREATMENT OF SHOCK.

BY J. HUBLEY SCHALL, M.D., BROOKLYN, N. Y., CONSULTING PATHOLOGIST MEMORIAL HOSPITAL.

IN looking over the most recent literature I find comparatively little written upon the subject of shock. It is surprising to me that so little time is given to investigating this great cause of death.

Post-mortem examinations reveal nothing. I know personally of three fatal cases, in which autopsies were carefully made, but resulted in the finding of no macroscopical lesion of any organ.

A few words in regard to the pathology of shock. It is claimed that the condition is due to a lack of sympathetic nerve force distributed to the cardiac ganglia, thus the tone of the vascular system is lost. As a result, the blood tends to accumulate in the relaxed veins, leaving the arteries partially emptied. In other words, the patient bleeds with his own veins and capillaries.

The symptoms of hemorrhage and shock are one and the same, and are due to cardiac and cerebral anemia.

The list of causes of shock is a long one. First and foremost I would mention, lengthy operations, with considerable loss of blood, combined with the depressing effect of the anesthetic. Here is a matter too often overlooked. Speed is only second to strict surgical cleanliness, as far as a favorable outcome is concerned. This is especially true in laparotomy work.

If we keep in mind the fact that in opening the abdomen there is undue irritation of the terminal endings of the sympathetic system of nerves, so richly distributed throughout the peritoneum, we can readily understand the resulting arteriole contraction after the over-stimulation of the vasomotor and cardiac innervating centers. Thus we have empty arteries and filled veins, a typical pathological picture of shock.

Treatment.—It would be waste of words to mention the well-tried hypodermic medicaments with which all of you are familiar.

It is the main object of this paper to impress upon the profession the great value of intravenous hot saline injections as an adjunct in the treatment of shock, a method which has recently become very popular with the German and French surgeons. My own experience is limited to its use in shock due to anesthesia and hemorrhage.

The results obtained have impressed me with the fact that this subject deserves careful study.

It is well known that heat applied to the præcordium tends to stimulate cardiac muscular tone, and by so doing react on the central nervous system.

Such being the case, Dawburn suggested the idea that, to introduce hot salt-water directly into the blood-current would bring the heat immediately into the heart chamber, and thereby stimulate the heart and the respiratory center in the medulla.

This method not only stimulates the heart, but increases the volume of circulating fluid.

In carrying out intravenous injections of saline solution, the following points should be considered: (*a*) The apparatus, (*b*) the solution, (*c*) the site of entrance, (*d*) the quantity, and, (*e*) the rapidity of the flow.

(*a*) In instances where the proper apparatus is not at hand, an ordinary fountain syringe and hypodermic needle will suffice.

An apparatus which seems to meet every requirement was made for me by Comer & Co., of Philadelphia.

It consists of a graduated tubular vessel, thirteen inches long and three inches in diameter. One extrem-

ity is drawn out in the shape of a funnel, and to this is attached a piece of rubber tubing, three feet long, which connects with a stop-cock having a detachable cannula. The interior of the vessel contains a thermometer. The vessel's capacity is eighteen ounces.

Its advantages over other instruments used for intravenous injections are: its simplicity, its convenient size; it can be made aseptic, and contains a thermometer, by which the temperature of the fluid can be constantly noted.

(*b*) The fluid generally used is the so-called normal saline solution, which is prepared by adding one dram of clean table salt to a pint of boiled and filtered water.

Professor Hare suggests the following combination:

Calcium chloride	0.25
Potassium chloride	0.10
Sodium chloride	9.0
Sterilized water	one liter

Parke, Davis & Co. have put up a concentrated saline solution consisting of the above formula, which, by dilution with boiled and filtered water, can be readily employed. This is, indeed, an admirable method by which the basis of the saline solution can be carried.

The calcium salts are essential to the clotting of blood; also that it will sustain the beats of the heart for a long period.

Under no circumstances should plain water be injected into the veins as a fatal result is likely to follow.

(*c*) The median basilic is one of the most convenient veins to expose. In opening the vein surgical cleanliness must be carried out.

After exposing the vein and incising it, a sterilized cannula is inserted into the opening, and is held in position by means of a catgut ligature.

Care must be taken that air is not admitted with the solution. This danger has been exaggerated. A bubble of air does no harm; the quantity to cause death must be considerable. To avoid the injection of air with the solution, allow the fluid to run through the cannula while the latter is being inserted into the vein.

(*d*) The amount of fluid to be injected in an adult should never be less than a pint, frequently two to four pints are required. Of course, the quantity is determined by the patient's general condition.

(*e*) The fluid should be injected at the rate of a pint in fifteen minutes, and at a temperature ranging from 115° to 120° F. It is remarkable how rapidly a solution at this temperature will stimulate a flagging heart.

When the pulse comes down to 120, or thereabouts, the cannula may be removed, the vein ligated and the incision closed. If it is necessary to repeat the dose, a hot saline rectal injection, as a rule, will give good results.

The foot of the bed should be elevated, and this position maintained till all danger of shock have passed.

Intravenous saline injections have not only been demonstrated by an extensive clinical experience to be of great value in shock, but also in the treatment of a large number of extreme conditions from infectious diseases.

In septicemia, uremia and diabetic coma the recovery of a clear mind and postponement of threatened coma is only to be seen to have this method of treatment appreciated.

In internal hemorrhage the intravenous saline injections are superior to any other line of treatment, because the saline solution renders the blood so plastic that it coagulates immediately after it leaves the vessel.

I am perfectly familiar with the unfavorable opinion of a great many men, upon the advisability of saline injections in internal hemorrhage, but experience has taught me that it forms the only chance for a condition which is almost always fatal.

I will terminate by saying that no patient should die from shock without an effort having been made to save him by means of a copious intervenous injection of a normal saline solution.

I must express my sincere thanks to Dr. W. H. Gilbert for the many valuable suggestions given me while a resident in his hospital at Baden Baden, Germany.

TREATMENT OF NERVOUS CASES BY THE GENERAL PRACTITIONER.

BY A. G. ELLIS, M.D., PHILADELPHIA.

MRS. G., who is about thirty years of age, appeared at the hospital last winter in a condition of complete paralysis in the left leg. Her history showed that she had a difficult labor, forceps being required. During the application of the forceps no pain was experienced as the direct result of its use, but soon after, when the paralysis developed, severe pain began in the paralyzed leg. The forceps had pressed upon the nerves causing a violent traumatic neuritis. She was then ordered to bed by the resident physician, and given a course of counter-irritation by blistering. Soon she was discharged, being much improved.

She was then able to walk. Examination showed the reflexes to be normal and there was no loss of sensation on that side.

This fall she has returned suffering with much pain in the same leg. The pain is much affected by the changes of the weather. For the last nine months she has suffered with pain in the arms. This is mostly upon the right side, the pain involving the whole arm, and extending over the shoulder and to the occipital region. Sometimes the pain is increased by motion, but not always. She has never had any paresis of the arm. The muscles are in good condition, even the interossii of the hand being normal.

This condition is evidently either rheumatic or the result of cervical pachymeningitis. The latter results, in nearly every case, from traumatism or from syphilis, and is bilateral in its results. She has never been injured about the arm or neck, and has no syphilitic history. Her pain began in the right arm, and could be considered unilateral, although the left arm was secondarily, and to a much slighter degree, affected.

This condition of rheumatic neuritis is best combated by the free use of salicylates and the application of the galvanic current with counter irritants.

Operating in Epilepsy.—A young woman of about twenty years was brought into the hospital suffering with epileptic attacks. She has a strong tubercular family history, both parents having died from that disease. A hypodemic injection of tuberculin was given her to determine the possibility of tubercular infection, but no reaction could be obtained at first.

The epilepsy is supposed to be caused by a tumor, but there is a possibility of the attacks being hysterical. The supposition of an organic lesion is based upon the fixity of the symptoms and the fact that between the attacks there are no hysterical manifestations of any kind. An examination of the eye ground showed the absence of any choked disk, which does not necessarily exclude the probability of a tumor.

The epileptic attacks come quite frequently in this case and continue for about five minutes unless they are cut short by the efforts of the patient and her nurses. Sometimes in this case the coming of the convulsion is prevented, but not always. An aura starts in the

ends of the fingers of the right hand, showing creeping upward, coming a minute or two before the onset of the convulsions. When the aura appears the patient grasps her wrist with the left hand and gets others to help in making as much constricting pressure as possible. This she says will check the attack. She says that if her fingers are pulled upon and are strongly stroked in a direction away from the body, there is greater liability of checking the convulsion. There is much emotional disturbance during the continuance of the aura, the expression varying rapidly and sharp screams being uttered. Suddenly she says the wrist constriction has not been sufficient and she loses hope, resigning to her fate. Then she utters a piercing and continuous cry. She sobs considerably. Just before the appearance of the convulsion unilateral flushing of the face became marked. The right side became a very distinct red, the left showing pallor. A clonic convulsion began in the right arm, quickly involving the whole body. This convulsion, more clonic than tonic, lasted about two minutes and then passed off as quickly as it came, leaving her perfectly conscious and able to answer any questions asked. Soon she dropped off into a profound sleep. During the convulsion her pupils were fixed, not reacting to light. Occasionally the attacks have only been very slight, only causing her to fall to the ground, the eyes remaining open, and consciousness preserved. In such cases there is no convulsion, and she is able to recognize people. When the convulsions appeared she was totally unconscious.

A second test was made by injecting tuberculin. Two other people had injections made for comparison, these not showing the rise of temperature from 99° to 102° that occurred in the epileptic case. This positive result indicated that possibly the epilepsy was due to a tubercular lesion within the brain. This fact, the history of the continuance of attacks for seven months and the localization of the symptoms made an operation justifiable. A re-examination of the eyes demonstrated choked disk, also pointing toward a cortical or subdural lesion.

Consequently, an operation was performed, the cranium being trephined over the hand area of the motor cortex, upon the left side, just above and posterior to the center of the fissure of Rolando. Absence of local tenderness and headache could exclude meningitis, but the dura was found adherent to the bone above the opening and free to either side and below. The skull was thick and very hard, a sign found in chronic inflammation. The dura was slightly congested, and protruded into the trephine opening, but there were no signs of tubercular meningitis. Cerebral pulsations were absent. Suspecting an abscess or cyst an aspirator needle was introduced into the brain substance in a half dozen directions, but no collection of any fluid could be found. After opening the dura the brain was found to be protruding and pressing against the dura in this position, but upon all sides the cortex was separated from the dura by about three-quarters of an inch. The brain shows very slight cerebral pulsations. It being deemed not justifiable to open the brain the dura was stitched closed, the scalp and pericranial flap returned to their place, and the wound closed. The post-operative treatment consisted in prolonged rest, large doses of bromides, careful dieting, daily evacuation of the bowels and avoidance of all excitement.

As yet the permanent results of the operation cannot be foretold. In the week following the operation she had two prodromic symptoms of an attack, and upon the seventh day a very partial convulsion of the right hand and arm. There was also a slight twitching of the facial muscles.

Treatment of Alcoholic Neuritis.—A case of neuritis in a man about forty-five years of age, with a history of long-continued and excessive use of alcohol, exhibits reactions of degeneration in the smaller muscles of the hands. The adductor follicis and interossii, by repeated and careful examination, show the most change. In these all response to faradism is lost, and with the galvanic current the anodal-closing current contraction is equal to the cathodal. This action is bilateral. Upon the left side the extensors of the hand and fingers have lost their faradic irritability, and exhibit a much increased galvanic anodal closing contraction over the cathodal closing.

This condition has been slowly progressing for years, and if left untreated would involve other muscles and make the paralysis more complete.

In the treatment the removal of the cause is the first consideration. The use of alcoholic beverages must be absolutely interdicted. For controlling the violent pains anodynes should not be too hastily employed. By such use habits might be instituted. Such a method might be as harmful as giving alcohol to cure the opium habit. Embrocations or evaporating lotions are very useful. Sedatives, external heat or antipyretics may reduce the pain. A very encouraging prescription may be composed of acetanilid gr. ii, caffeine gr. ss and sodium bicarbonate gr. ii. The use of a hot-water bag in nervous cases, especially with peripheral lesions, should be restricted, or, if used, great caution should be taken as it is very easy to blister the skin, even in cases of paralysis. The patient should be given good nourishing food. Potassium iodide, arsenic in small doses, or the salicylates may be employed, but it is doubtful if any of these has any decided influence upon the nerves themselves.

After the pains have subsided and the acute symptoms have passed away the system should be supported and built up by massage and stimulants. But the danger of a pneumogastric involvement must be kept in mind. Overstimulation may cause an obstruction to the normal functions of the pneumogastric nerve, and ultimately result in a sudden stoppage of the heart's action. To avoid this the heart should be kept in perfect quiet. Digitalis may be then employed; and strychnine would be beneficial.

Poliomyelitis with Local Syncope.—This case of a girl, eighteen years of age, forms an extremely interesting case. When eighteen months of age she had a violent attack which was similar to cholera morbus. It was followed by a loss of power extending over the left side, which persisted for about eight months, and was then partially recovered from. She never thoroughly recovered, as she still has some disability on that side. Four years ago she began to suffer, a nervous attack coming on. The character of the attack changed later. In the earlier form she had extreme pain universally over the body, slightly greater on the right side. This at first came only once every few months, and would last from an hour to all day. The pain was accompanied with a coldness of the surface, the skin seeming to lose all its heat. Any change in the color of the skin was not noticed and cannot be said not to have occurred. The girl has always been of a delicate constitution. At first she did not lose consciousness.

In the later attacks the pain has commenced when the patient began eating her meals. The pain would extend over the right half of the body and would be intense. The peculiar cold condition of the surface would still

be apparent. During these attacks the right side of the face would become slightly flushed, and a pure white area, circular in outline, would suddenly appear on the prominence of the cheek. This, starting as an area the size of a small coin, would gradually increase until the whole side of the face would fade into this deadly pale condition.

The border of the white area was always sharply marked. At the same time violent lancinating pains would shoot down the extremities, these lasting some few hours. Quite often she would lose consciousness, but not during every attack. When the unconsciousness did come it would usually come after she had been suffering with the pain for about an hour. Frequently she would have clonic contractures of the extremities.

At present her muscles are relaxed, but there are some clonic contractures. Her left foot, the side on which is the loss of power, but not that on which she has had the pains, is held in extreme extension. There is much wasting. There are distinct contractures at the knee, but are more marked in the perineal group of muscles. As in poliomyelitis there are apparently contractures in the non-affected muscles, from the loss of antagonistic force. The patellar reflex is absent on the affected side, but nominal on the right. The foot is freely movable, showing the contractures are in muscles in a normal condition. The skin of the foot is distinctly cold.

The nervous symptoms resemble epilepsy in a few particulars, but cannot be due to that condition as the unconsciousness does not always occur, and then when it does appear it comes only after the attack of pain has existed for some hours. The pain is general, not localized. A distinct aura has not been present. The attack is not brief and fixed as in epilepsy, and was not accompanied with the loss of consciousness until the attacks had been occurring for years. This case might be an irregular form of erythromelalgia, that peculiar vasomotor condition in which a whiteness of the face appears at irregular intervals. In it the face and fingers are especially affected. The latter becomes white, the pale area being sharply defined from the redness of the flushed surrounding skin. Later the finger gets intensely black and becomes swollen. This latter condition lasts a few hours and then gradually passes off. There is intense pain accompanying it. In some cases a horrible headache may replace the finger pain. In this case the pain is most severe in the head.

This condition might be irregular migraine, but the latter condition is very rare before puberty. When the headache appeared over the right side of the face the whole left side of the body was painful. The case is not inherited as the mother never suffered with headache and the father has only had headaches since he has become a house painter. The attacks are separate from the poliomyelitis and are probably a form of local syncope.

There is no specific treatment for this condition; no drug will do away with the attacks. Therefore, the treatment must be hygienic. The patient's health must be benefited by plenty of good fresh air. She should sleep in the open air, a tent is preferable in warm weather. Her foods should be fatty, cod-liver oil being important. Iron and arsenic, in moderate doses, with an analgesic, are indicated. Phenacetine and caffeine have been given together, but in too small doses. Caffeine gr. iii and phenacetine gr. xv should be given together, or, if of no avail, separately. If the case were migraine, Cannabis Indica might be of service.

Cerebrospinal Meningitis.—This patient is a boy of seven, who has always been particularly strong and healthy up to the present trouble. The diagnosis was made on the sudden onset of cerebral symptoms, vomiting, rigidity of the neck, arched condition of the body, sensitiveness of the skin, and exaggerated knee-jerks. These were sufficient to make out a clear case, but there are some few points in which the case differs from ordinary ones.

One is that there has been no petechial eruptions. This, however, is not necessarily present in a true case of this disease. In the lighter cases they may not be present and the condition be exactly as in this case. Herpes labialis, of which a remnant can still be seen in this boy, is very constant, belongs to the disease, and must be looked for in all instances. A point which is rather unusual is that in this case the violent headache was lost much sooner than is common. Perhaps there is also a little difference in there being no chill at the onset, which is generally present.

Three other conditions are to be thought of in such cases. First, tubercular meningitis. Second, meningeal type of typhoid fever, and third, apex pneumonias. A point of clinical interest is that in cases of apex pneumonia or typhoid fever with meningeal involvement the delirium is persistent. Not so easily set aside is tubercular meningitis, but in this case the symptoms came on too suddenly for this, and the patient is also a very healthy child instead of a scrofulous tendency. In view of the fact that the disease is caused by a special bacillus, lumbar puncture has been practised in some cases, in order that the fluid might be examined to determine the presence or absence of the organism. This is a rather aggressive form of diagnosis, and certainly not needed in this case. Fortunately, this case is terminating in recovery. This is rather the exception, especially, in the petechial form. The prognosis is the more favorable when the spinal symptoms predominate instead of the cerebral, and also more favorable the younger the child.

The treatment here was the persistent use of ice to the head, and mustard to the nape of the neck. Ice might have been used instead of the mustard, but it was exceedingly difficult to keep it applied, so the mustard was used. Bromide of potassium, 5 grains, in 20 minims of paregoric, was given every fourth hour, alternating with 5 grains of iodide of potash. This is the best method of treatment in my opinion. I believe in the use of opium in small quantities, but here the amount used was smaller than the usual quantity given. The child was quieted very effectually, however. I also depend on the iodide a great deal.

It should be said that even if the child recover from the attack itself the exudation may cause headache to follow, or there may even be a tendency to convulsions as an after effect.

PROBLEMS FOR DIAGNOSIS NO. II—DISTENDED ABDOMEN.

REPORTED BY DR. M. HEINEBERG.

THE first case in the discussion of this subject is that of a woman twenty-five years old, married. She has given birth to two children, and has had a miscarriage about a year ago, after which she suffered from fever for about two weeks, but recovered fully.

Her family history is as follows: Her father and mother died at the ages of fifty-six and forty years.

respectively, from causes unknown to our patient; a brother and sister, the only children besides herself, are both living and in good health.

The patient herself was last confined about six weeks before admission to the hospital ward a few days ago. The day after confinement she complained of abdominal pain, a swelling of the legs and constipation of the bowels.

On admission the above symptoms were still present, and she showed, besides, a puffiness under the eyes, a certain amount of general puffiness of the face, and a distended abdomen.

A systematic examination revealed a normal pulse, respiratory movement and temperature; the lungs were resonant in all parts, a few râles being present.

Auscultation of the heart elicited the fact that the sounds were somewhat feeble; there was a systolic apex murmur and a faint basic murmur.

The systolic apex murmur was transmitted with greatest intensity up the left border of the sternum, instead of toward the axilla, pointing toward a hemic murmur or possibly a murmur of relative mitral incompetency. The points of differential diagnosis favoring a hemic murmur as against that of mitral incompetency are as presented in this case: First, it is not transmitted toward the axilla, but, as said, up the left border of the sternum. Second, it is distinctly heard at the apex, less distinctly between apex and base, and again with great distinctness at the base. Third, there is no marked accentuation of the pulmonary second sound, a point of much importance.

The liver and spleen were normal. The urine showed the following characters: Straw colored, slightly colored. Sp. gr. 1010, acid in reaction, a flocculent deposit; it gave a distinct heavy ring of albumen, no sugar; microscopically it showed a few blood corpuscles, granular and epithelial casts.

The abdomen, on inspection, presented the persistence of the streak of the cloasma of pregnancy in the median line, and showed great distention. On palpation a degree of fluctuation was present. Percussion of the apex of the dome like distention revealed tympany, which was elicited also by percussion of the flanks, showing the cause of the distention to be gas.

A point in physical diagnosis brought out by palpation was as follows: Fluctuation confined principally to the abdominal wall was elicited, but the hand of the nurse, placed on edge in the median line on the abdomen, interrupted the wave produced. The absence of fluid in the abdomen, the history of pregnancy and constipation, the albuminous urine containing casts, the general adynamic condition are aids in the diagnosis of acute parenchymatous nephritis with general asthenia and partial paresis of the bowel, a condition not infrequent after pregnancy.

The treatment of the condition consisted in the initial dose of 1 gr. of calomel, in divided doses, infusion of digitalis in small doses, Basham's mixture ʒii every two hours, strychnine $^1/_{30}$ gr. every four hours during the day, rest in bed. Later, abdominal massage, for the purpose of stimulating the muscular fibers of the intestines, and faradizing every fifteen minutes.

The next case demonstrates the value of close observation and attention to detail, the patient being a good example. By mere inspection no great amount of difference can be discerned between this and the foregoing case; we have before us a somewhat emaciated female, anemic, with a greatly distended abdomen.

The history, however, discloses several marked distinctions from that of the preceding. It is as follows: This woman is twenty-five years of age, a Russian; has been married two years. Her family history is negative; her father and mother died at the age of fifty and forty-five years, respectively. ('Tis of some interest to note that people of the class of which this woman is a member, especially Russians, very often, one might say a majority of them, die between the ages of forty-five and fifty-five, a point so often brought out in clinical work.) She has three brothers and sisters living and in good health.

The patient had enjoyed good health until about one year ago, when she noticed that her feet began to swell, which swelling was not so great as to cause any alarm, and, after a confinement, about six weeks ago, it disappeared temporarily. Eight days after confinement patient noticed that her feet again became swollen, and also that her abdomen was distended, so she applied for admission to the hospital, and was received in November last.

Examination on admission gave these results: Her tongue was slightly coated; she suffered from constipation. Temperature normal, and has remained so, except in one instance, when it rose to 101.2° F., to rapidly decline to normal again; her lungs were normal in every respect, and, with the exception of a slight dilatation, no lesion of the heart could be made out.

Percussion of the liver showed that the area of liver dullness extended anteriorly from the fourth intercostal space to the arch of the ribs.

The urine report was: Straw colored, clear, acid reaction, sp. gr. 1030; no sugar nor albumin demonstrable. Microscopically, a very small number of epithelial casts were found.

A vaginal examination was productive of nothing to indicate disease of the pelvic viscera. The cervix uteri was of normal size and consistence, and freely movable; the ovaries were pushed down; there was no tenderness nor tumor.

An examination of the blood showed 65 per cent. of hemoglobin, a normal number of leucocytes, and 4,000,400 erythrocytes.

The abdomen, as before said, was greatly distended, and three days after admission (Nov. 21) paracentesis abdominis was performed, 379 fluid ounces of a nearly clear fluid being drawn off. After tapping, the liver, which before could not be palpated, became distinctly palpable.

The fluid in the abdominal cavity rapidly accumulated and required that paracentesis abdominis be again performed, on Dec. 4th, this time twenty-one pints of a clear greenish fluid, sp. gr. 1011, being drawn.

The skin of the patient presents marked pallor; a greatly distended abdomen, a symmetrical, dome-shaped distention; from the apex of the dome a tympanitic percussion note can be elicited; percussion of the flank gives an absolutely flat percussion note; this flatness is present at the lowest part of the abdomen when the patient is shifted from one position to another.

On combined palpation and percussion a distinct wave of fluctuation is apparent, which wave is not interrupted by the hand of the nurse placed in the median line.

On the surface of the abdomen the superficial veins appear markedly distended; the blood current in them is upward.

The feet and legs are edematous, bluish, cool, and pit on pressure.

In the absence of any kidney or heart lesion, this edema must be attributed to some obstruction to the portal circulation, the distended superficial veins aiding in such a diagnosis, as do also the facts that the edema

is secondary to the ascites and is not so intense as is the edema due to a cardiac or renal lesion.

The presence of rapidly increasing ascites as an early symptom is confirmative of the diagnosis of portal obstruction, in contradistinction to the ascites accompanying renal and cardiac diseases, in which it appears in the latter stages of the general anasarca produced by them.

What then is the cause of the obstruction to the portal circulation? Naturally one looks first for cirrhosis of the liver; the rapid onslaught, and still more rapid increase of the ascites, the previous history, and the absence of decrease in the size of the liver make such a diagnosis improbable. (The previous history also precludes the diagnosis of subacute or tubercular peritonitis.)

The case suggests strongly portal thrombosis, probably a slowly forming thrombus. That it is not a rapidly formed thrombus is evidenced by the absence of marked perturbations (vomiting and bloodly diarrhea), which usually accompany the lodgment of a thrombus in the portal circulation.

In favor of a slowly formed thrombus are the time of the attack (two weeks following a pregnancy) and the rapid and great ascites.

This diagnosis is by no means a positive one, but accounts largely for the majority of the symptoms, the time of their appearance and their nature.

The treatment has been general. Iron tonics, an occasional dose of anomatic spirit of ammonia when depressed, paracentesis when necessary; the restriction of the ingestion of fluids.

The advisability of an operation will be discussed if patient does not soon show signs of improvement. If the condition is as supposed, thrombosis of the portal vein, it is the one most favorable for the success of the operation of the establishment of a collateral circulation. In this case we have probably a normally acting liver, or rather one capable of normal function, but prevented from so doing by the fact that the material upon which it exerts its action, viz.: the blood of the portal circulation, is largely prevented from entering the liver by reason of the obstruction in its course.

Collateral circulation has to some degree been established, as is evidenced by the distended superficial abdominal veins.

The operation to establish collateral circulation has been performed to relieve the portal obstruction, due to cirrhosis of the liver, with the view that the congestion of the portal circulation would be relieved, the pressure upon the liver cells be diminished, and they, in consequence of this diminution in pressure, functionate normally. The operation, while it has the effect of successfully establishing collateral circulation through the superficial veins, and completely relieving the portal congestion and accompanying ascites, has not been signally successful in prolonging the life of the patients, who have, in the majority of instances, died from toxemia, due to the circulation in the blood of toxic materials absorbed from the alimentary canal, which materials, not entering the liver directly from the portal vein, but by reason of the collateral circulation being thrown directly into the vena cavæ and the systemic circulation, were not acted upon by the liver and rendered non-toxic.

In this case the conditions are somewhat reversed. We have not probably a liver impaired by cirrhosis, but a normal one, prevented from functionating by reason of lack of material upon which to act. If then, by an operation which would accomplish the formation of adhesions between the omentum, mesentery and undersurface of the liver, the now obstructed portal circulation be made to enter the non-impaired liver, would not the condition be relieved?

A Case Presented for Diagnosis.—Here was a married man, thirty-five years old, a well-formed individual, and well-developed muscular system. A coal miner by occupation, up to a few months ago, when he took up the profession of boiler-making. His father was also a coal miner; died at the age of eighty-four; his mother, now eighty-four years old, is in good health. One brother died about twelve years ago in the German Hospital in Philadelphia, of actinomycosis (it is interesting to note that this was the first case of actinomycosis thoroughly studied, identified, and described in the United States); two other brothers and three sisters are living and in good health.

The patient states that he had the common diseases of childhood, and about eight years ago suffered from rheumatism.

For the last eleven years he has suffered from a cough, usually dry and non-productive, and a gradually progressive dyspnea, increased on exertion.

About eight months ago he was seized by a severe chill, followed by high fever; the cough increased in severity, and he expectorated large quantities of black sputum; recovering from this acute attack, the expectoration has progressively diminished and is at present only occasional.

The urine report is as follows: Clear, straw colored. Sp. gr. 1024; no sugar or albumin present.

Inspection.—The chest is well formed, assuming somewhat the emphysematous type (barrel-shaped); the supra and infraclavicular depressions are prominent.

Percussion reveals that the resonance of the right apex is impaired posteriorly and in the infraclavicular region; the left apex less impaired than the right. The upper border of the area of hepatic dulness reaches only to the upper border of the sixth rib, the lower border extending two fingers' breadth below the arch of the ribs.

Area of splenic dullness extends below normal. The area of deep cardiac dulness begins in the left peristernal line at the second rib; the area of superficial cardiac dulness is slightly diminished, the percussion note being vesiculo tympanitic.

Auscultation.—The first sound of the heart in the apex region is very faint, the second sound being also feeble; at the base both sounds are indistinct; no murmurs can be made out in any area. Broncho-vesicular respiration is very distinct in the right infraclavicular region, and on deep respiration crepitant and dry râles are present.

In the left infraclavicular region similar sounds are heard, and on deep inspiration high-pitched sibilant râles can be heard. Lower down the breath sounds are feeble, the inspiratory murmur slight, expiratory murmur prolonged, and an occasional sonorous râle.

The diagnosis is comparatively a simple matter; the case is one of chronic bronchitis, with an accompanying emphysema, set up by the inhalation of coal dust.

The acute attack eight months ago may have been a croupous pneumonia or a limited broncho-pneumonia, possibly of tuberculous nature, causing the breaking down of a bronchial tube.

It should be borne in mind that cases presenting the aspects of this one, anthracosis, bronchitis, emphysema, with the solidification of some portion of the lung (in this case the apices), are usually of a tubercular nature.

OPERATING ON CIRRHOSIS OF THE LIVER.

REPORTED BY DR. M. E. FITCH, PHILADELPHIA, PA.

THE case under discussion was unique from several standpoints. It was a case of cirrhosis of the liver, which had been operated, as hereafter shall be described in full. One point in its uniqueness was that the effect of the operation could be most vividly set forth, by reason of only the abdominal viscera being presented. The post-mortem notes of interest are as follows: The patient, a male, sixty-three years old, a native of England. The autopsy, held eight hours after death, was not a complete one, due to the objection of relatives to have the body unnecessarily mutilated, as they thought, so, accordingly, the incision made extended from the xyphoid cartilage to the umbilicus.

On opening the abdomen a large amount of yellowish, blood-tinged serum escaped; the viscera of the abdominal cavity were found to be extensively adherent to the abdominal wall and to each other, the omentum being rather strongly attached to the lower surface of the liver, while the liver and diaphragm were intimately united; none of the adhesion, however, being completely fibrous.

The thoracic viscera had to be removed by incising the diaphragm; the heart was larger than normal, weighing 11 ozs.; the lungs were not removed, but by digital examination were found to be adherent to the surrounding tissues, were solid and granular to the touch, portions torn away being grayish in color and probably tubercular. At the base of the aorta calcific deposits of some size were apparent, but in other respects the heart was normal except for the hypertrophy above mentioned. The spleen was enormously enlarged, weighing 21 ozs., and adherent to all the surrounding parts; on incision the capsule was found greatly thickened and the pulp showing some fibrous change. In contrast to the enormously enlarged spleen was to be noted the great diminution of the size of the liver which weighed only 2 lbs., 2 ozs. The left lobe appeared about of normal size, but the right lobe appeared greatly shrunken, smaller than the left. The liver was surrounded by masses of fibrous tissue by which it had adhered to the omentum, intestines and diaphragm; the capsule, consequently, was thickened to a great degree. On incision the left lobe cut with its normal amount of resistance and showed no particular change, the right lobe cutting with marked resistance and showed marked fibrous change.

The kidneys, while they were not reduced in size, showed evidence of interstitial nephritis, by the reduction in size of the cortical layer at several points, and by the great enlargement of the hilum, a point to be noted.

The patient was a heavy drinker, had enjoyed comparatively good health until about five years ago, when he first noticed a slight swelling in the lower part of his abdomen; this tumor increased slowly and was neglected until recently, when its size became alarming.

He was admitted to the hospital ward on August 6, 1900. An examination of the tumor demonstrated that it was fluid, marked fluctuation being obtainable.

The diagnosis of cirrhosis of the liver was made, and, accordingly, the abdomen was tapped on August 15th, 250 ozs. of a clear straw colored fluid being withdrawn; by August 23d the fluid had again so greatly increased that paracentesis was again performed, about 200 ozs. being removed; the continuing accumulation made paracentesis imperative several times subsequent; on September 2d, 216 ozs.; September 15th, 250 ozs.; September 24th, 320 ozs.; October 6th, 317 ozs.

It might be added that the absence of dilatation of the superficial abdominal veins pointed to the fact that the systemic venous circulation was not aiding to relieve the portal congestion. With the exception of the ascites no marked symptoms of portal obstruction were present; by this we mean that there was no marked edema of the lower extremities; nor varicose veins, nor hemorrhoids. No history of hematemesis was considered proof that the portal obstruction was not being relieved by dilatation of the gastric or esophageal veins.

Taking into account the so rapid accumulation of the ascitic fluid which was not benefited to any extent by drugs, the case was considered one suitable for the operation hereinafter described; accordingly, such an operation was performed on October 13th, and patient sent to surgical ward. On November 15th the patient was returned to the medical ward, as having practically recovered from the effects of the operation; he, however, presented the picture of one suffering from toxemia, which, indeed, was the condition. His strength seemed to have been entirely exhausted, mental depression was quite marked, he lay in a relaxed, almost comatose condition, his mind wandering.

Inspection of the abdomen revealed the presence of four greatly distended veins; in the two upper ones the direction of the blood current was upward, and downward in the two lower ones. The distended veins were evidence that the systemic circulation had been made to relieve the obstructed portal circulation, the object sought.

Why, then, was the patient not benefited, the ascites practically disappeared?

While all the functions of the liver have not, with any degree of definiteness, been worked out, one of its functions is undoubtedly that of rendering inert the toxic principles derived from the processes of digestion and absorption from the alimentary canal; when one reflects, then that if part of the blood, which normally enters the liver through the portal vein, is interrupted in its course and made to flow into other channels, and these channels not connected with the liver it is readily understood how some of these toxic products of digestion failed to be acted upon by the liver cells and enter the general circulation, as in this case where the deflected blood entered the superficial abdominal veins and, through them, the right side of the heart, from which it was thrown into first the pulmonary, then the systemic circulation, setting up the condition of toxemia. This, then, is considered objection number one to the operation.

Objection number two resides in knowledge that all the tissues of the body are rendered weak and nonresisting by cirrhosis of the liver, consequently, an operation of great extent is very apt to be followed by suppression of the urine and other pathologic conditions dependent upon the shock by which the operation is accompanied. The theory that the ill effects of cirrhosis of the liver could be rendered nil by an operation which would relieve the portal congestion was first advanced in 1887, was put into practice, however, with no success. In the early '90's it was revised by Morrison, of England. Post-mortems upon subjects who had suffered from cirrhosis, not attended by ascites, showed that adhesions had taken place between the omentum and other abdominal viscera. Observing this, Dr. Morrison proposed to produce a like condition by operative procedure.

The theories advanced to account for ascites accompanying cirrhosis are not entirely satisfactory. One theory is, that the increased amount of fibrous tissue obstructs the portal circulation. If this be true then the ascites should exist in the beginning of the process when pressure is probably greatest, and not toward the end, as is the rule. Another theory, and a more plausible one, ascribes the ascites to the fact that the pressure of the increased fibrous tissue of the liver destroys, or limits, the action of the liver cells; all of the toxins from the alimentary canal are, consequently, not destroyed, and, on entering the general circulation, there exhibit a cholagogue action, causing the serum of the blood to leave the vessels. If the latter theory be true, to set up a collateral circulation, which would relieve the pressure upon the liver cells, permitting them to again normally perform their function, would relieve, or perhaps prevent, the ascites.

The results of the operation tend to disprove that any theory thus far advanced is the correct one. The operation in this case was performed by making a median line incision in the abdomen above the umbilicus. The parietal layer of the peritoneum, the omentum, the under and upper surfaces of the liver, the under surface ot the diaphragm, and the entire capsule of the spleen were irritated by rubbing them with dry gauze. That the desired collateral circulation was established was evidenced by the fact of the four dilated superficial abdominal veins and the firm adhesions between the abdominal viscera.

It may be interesting to note that an operation similar to the above was performed upon a woman suffering from a marked cirrhosis of the liver and from whom nearly six gallons of fluid were drawn every two months for about a year previous to the operation. The woman is alive to-day, attends to her duties, and the accumulation of fluid in her abdomen, while not entirely stopped, is, nevertheless, very slight.

THE HEMORRHAGIC DIATHESIS.

BY DR. D. D. WOOD, PHILADELPHIA.

THE belief is growing that purpura is not a disease, but simply a symptom; just as dropsy has now long been relegated from the class of diseases. But, as we do not know yet enough about these diseases, it is convenient to classify together a number of affections in which the most obvious symptom is the extravasation of blood into the skin. Koch has given them the title assumed for this article; undoubtedly for the present this term is the best.

Purpuric spots vary greatly in size, from 1 to 4 m.m. in diameter, or they may be large enough to be called ecchymoses. At first they are bright red in color, but become darker as days roll away, and gradually disappear as brownish stains. One interesting characteristic is that, being actual hemorrhages into the skin, they do not disappear on pressure.

Hamilton and Yates have put on record a case of purpura hemorrhagica in which, on terminating fatally, there was developed from cultures the bacillus aerogenes capsulatus, the streptococcus aureus, and a small unknown bacillus. They thought it was a case of staphylococcus infection. On the other hand, Johnson reports a case of rheumatic purpura in which there was paroxysms of colic preceding a purpuric eruption. Le Nori reports a case in which he thinks his patient had purpura following poisoning by inhalations of benzine. Other cases have been reported which seemed to be of syphilitic origin, and disappeared under specific treatment. Bierer has reported a case in which purpura followed and was apparently due to vaccination.

Morse reports a case of an infant, 12 months old, which he thought due to pneumococcic infection. Raulin reports a case where attacks of gastro-enteralgia were invariably followed by purpura. A number of cases of purpura following the administration of quinine have been reported. One such case occurred in the writer's practise. Twice did small doses of quinine bring out purpuric eruption.

So that undoubtedly there must be different forms of purpura due to different causes, not yet understood or appreciated.

In arthritic purpura, a number of which cases have recently fallen under my observation, there is involvement of the joints. I think it is a mistake to call such cases rheumatic, for the evidence is not complete or conclusive. The mildest form of purpura arthritica is called simplex. It occurs more commonly in children, with or without pain, and frequently with the appearance of diarrhea. Generally there is no fever and the patient gets well in a few days. In fact, but for the appearance of a few spots, the condition would scarcely attract attention. The more advanced form of purpura rheumatica is more pronounced. The arthritis is more pronounced, there the fever spots are bigger, and many complications may appear. Some authorities regard this disease as simply rheumatic fever plus purpura, but such is not the case, probably. The hemorrhagic form is the most severe; here large spots appear, the symptoms are urgent, and the prognosis is often bad. I report a case of the middle form which seems to me to be worth describing.

The patient was a young American girl, æt. 16. Her family history was negative, as was her personal history, for she had no knowledge of having suffered any of the diseases of childhood.

She was admitted to the hospital on December 2d; four days previous to admission she noticed a swelling of her feet and legs, which disappeared, leaving ecchymotic areas, small in size but extending all over legs and feet. On admission, her lower extremities were covered with an erythematous rash, patechial in character. Her temperature was normal and no signs of a constitutional disease could be found.

A few days subsequent to admission the rash disappeared from her lower extremities, to be followed by the presence of swelling, ecchymosis, and the patechial rash over her arms, but not of the face or body. These disappeared as had the previous rash, again to be followed by the rash over both lower and upper extremities, and this condition is at present very marked.

The absence of constitutional symptoms after these several days, during which the patient has been under observation, together with the negative family and personal history; the occurrence of the rash in the peculiar migratory form make the diagnosis of purpura, one of no great difficulty. The variety of purpura is undoubtedly that of arthritis, subdivision simplex, according to Osler's division of this purely symptomatic disease; the conditions producing it in this case being anemia, and slight articular involvement, probably rheumatic.

The treatment consisted at first of liq. potass. arsen., ♏12, t. i. d., but owing to the fact that it produced vomiting, it was discontinued, and sodium salicylate substituted in view of the fact that the condition is rheumatoid. The arsenic, combined with Basham's mixture, will be administered in a few days. She will do well on this plan of treatment.

The Medical Times.

A MONTHLY JOURNAL

OF

Medicine, Surgery, and Collateral Sciences.

EDITORS:

EBERT GUERNSEY, M.D., LL.D. ALFRED KIMBALL HILLS, M.D.

Communications should be addressed to the MEDICAL TIMES, 180 West Fifty-ninth Street, Central Park South.

Published on the first of each month.

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NEW YORK, APRIL, 1901.

"Most of sterling worth is what our own experience teaches."

THE THERAPEUTICS OF COLOR AND MUSIC.

A WRITER in *Science* calls attention to a fact, noticed by those in a high psychic condition, of the emanation of color with each distinct tone of the voice from the head of a speaker or singer, this color being more intense and the color area larger and more visible as the words and tones are more impassioned. The shade of color, which is generally blue at first, changes with the individual condition of the mind, either faint or bright, in accordance with the more or less impassioned tone, but always showing the same changes, more or less vivid. In the case of the singing of Madame Lehman the blue color verged towards the liquid-green, while with Alboni it was a pale sheen of silver vapor. With the tenor Vogel the aureola was an evanescent and pale straw color, but in Madame Mielke the blue became a velvety purple or violet. Madame Nordica emitted an aureola of pale, translucent gold, but Patti seemed to emit no distinguished color, but rather a kaleidoscopic blending of many colors. With speakers and singers of a cold, unimpassioned nature, however logical their reasoning or correct their phrasing, the lack of intense individual sympathy prevents the appearance of any aureole, except in so slight a degree as to be only observable to the highly psychic mind. The effect of color and music on the mind, in a limited degree, has been known and utilized to a certain extent, for ages, but with the abundant evidence of their great power in stimulating and shaping thoughts, in intensifying or depressing emotion, it is beyond comprehension why they have not been utilized to a greater extent in the medical profession as therapeutic agents, and their action explained, from at least a psychic or spiritual standpoint. The air of certain houses or apartments affects us immediately. In the one, everything seems harmonious. There is a feeling of rest, of comfort and of home; in another, perhaps more richly furnished, there is an entirely different feeling. But very few are sufficiently educated artistically, to give an intelligent explanation of their impressions caused by the general color of the room and the tone of the physical surroundings. The effect of color in the painting of the walls and the decoration of the rooms has heretofore been relegated, to a great extent, to the painter or decorator, who, while an expert in the harmony of colors, is not always familiar with the effect of color masses on different people. A study of temperament and mental peculiarities should enable the physician to give valuable hints in the coloring and surroundings of living and sleeping rooms at home, especially in asylums and hospitals, where the room could be selected best in harmony with the temperament and condition of the patient. The few facts we have given only faintly foreshadow the high position which the study of color may occupy as a therapeutic agent.

The effect of music on the mind has for ages been recognized and utilized to a certain extent, but only a modicum of its beneficial effects has been obtained, through a failure of understanding the specific action of tones and chords on the nervous system, and their proper selection and application for therapeutic agencies. The healing power of music depends upon the regular periodic vibrations. Its action is upon the mind, and affects the mind favorably through the regularity of the vibrations, the mind transmitting the smooth, periodic pulsations, by which it is influenced, to the nervous system, each set of nerves adapting the musical energy to its own requirements, equalizing the circulation, relaxing the grip of disease, and vibrating its aches and pains out of the physical into the spiritual.

In therapeutics we differentiate in a most marked degree between music, which is perfect harmony, and noise, with its discordant elements and unequal vibrations. The former is a reproduction upon a limited plane of those principles which have always existed in the universe, and are the *à priori* elements of divine harmony. The reason why music is not always healing in its influence is not the fault of music, but in the way in which it is presented. There is diet in music, and the tone should be adapted to the necessities of the individual, each case being individualized with as much care and skill as the administration of any drug for a certain specific action. The more subtle the therapeutic agent, the more quickly and positively will disease yield to its power. What is being accomplished by the chemists and pharmacists in the preparation of new remedial agents for the prevention and cure of disease is now also obtained by the scientists in the adaptation of music, one of the most subtle of all remedial agents, to its proper place in therapeutics.

The Æolian Music Company, of this city, in their organs and pianos have a device by which is reproduced

in absolute perfection, in every detail of tone and touch, the very soul of the most skilled artist. Automatic to a certain extent, no special skill is required on the part of the performer, and only ordinary intelligence, and yet the result is such that a person, not seeing the instrument, would be able to recognize the masterly touch and delicate phrasing of the greatest artists, as if their fingers were actually passing over the keys, their very souls vibrating in waves of harmony through the instrument. The effect of properly selected music, adapted to different temperaments and the varied forms of disease, rendered with the perfection of human skill, is beyond calculation. Tune and rhythm are important factors in music for the sick, and musical expression is a vital element, and these are given in as near perfection as is possible by the trained artist. The twentieth century opened with tremendous strides in progressive medicine. The most valuable of all are the unfolding of psychic conditions and the action of the subtle and all-powerful forces which constitute the harmony of the universe. The day is not far distant when music, properly directed, will be recognized as such a powerful therapeutic agent that it will fill a most important place in every hospital and every home.

BRAIN STUDY.

AN exceedingly interesting paper was read by Dr. Edward C. Spitzka before the New York Academy of Sciences, at its last meeting, giving the results of a comparative analytical study of the brains of Dr. Edouard Seguin and his son, Dr. Edouard C. Seguin. The brains of both father and son were left, by will, to Dr. Spitzka, one of our most distinguished alienists, who has made a special study in the College of Physicians and Surgeons, of more than a hundred brains, the results of which were incorporated in a paper read before the American Anatomical Association at Baltimore. The elder Dr. Seguin was a distinguished alienist, who discovered the system of educating and developing idiots by employing and teaching the use of the senses. The son was one of the leading neurologists of the country, whose voluminous writings were characterized by great research and originality of thought. Father and son were alike in their line of thought, their tastes and their work, in many respects. Both the Seguins were great teachers. Their marvelous faculties of receiving and imparting knowledge were made evident in the enlarged center of association of the hearing and speaking faculties. Here, too, centered their uncommon power of graphic representation. Both father and son were facile artists, using their hands habitually in the speedy and accurate drawing of blackboard illustrations for the instruction of their pupils in the class-room.

A comparison of the two brains showed that those traits and peculiarities which were most conspicuously transmitted by heredity from father to son were transmitted to the opposite side of the son's brain. The so-called "physiognomy" of the two brains differs little, but if they were both placed with one hundred others, and the entire lot were classified and reclassified, according to their convolutions, the brains of the two Seguins would come ultimately into a class by themselves. The study of brain matter is not carried on microscopically, as the texture variations could tell us little. The most profitable field of observation has been found to lie in the study of the morphometry of the brains, or their similarities or differences in form.

"I have found that both these brains differ from the normal in that they have the left island of Reil, the great mental association center, remarkably developed. The island of Reil is so called from the name of its discoverer, a French physician. Ordinarily, in the average brain, it is so enclosed as not to be a visible surface. But in the case of the Seguins, both father and son, it had become so large as to force its way between the receptive auditory center and the emissary verbal center and to push itself into view. In the Australian natives and the lower aborigines the island of Reil is commonly perceptible, but for the opposite reason that the auditory and verbal centers contiguous to it are contracted and comparatively undeveloped."

The paper of Dr. Spitzka has created in the minds of scientists in general a deep interest for its bearing upon the transmission of hereditary qualities.

FROGS AND REMITTENT FEVER.

PERSONS living near the low lands, or swamps and stagnant pools of water, have anathematized in no measured tones the harsh croakings of frogs disturbing their rest during the night, and have doubted if the delicate meat of the legs, so palatable to the epicurean taste, was a sufficient return for their making night hideous. We are discovering that the frog may, in the economy of Nature, be intrusted with other and more important work—that of in some way preventing the development and spread of a large class of fevers, of the remittent type, which have generally been attributed to malaria, until, at a recent date, the mosquito has helped us to a more correct diagnosis. Dr. J. Robie Wood, of this city, many years ago called attention to the possible benefit of frogs in malarious districts. Not that very serious fevers may not exist in the neighborhood of swamps where frogs are abundant, but remittent fever of the most pernicious type would render the country surrounding them uninhabitable if every frog was destroyed in such swamps.

Being almost constantly in the field during the Civil War, Dr. Wood had ample opportunity for studying swamp-fevers in those days, when the pestiferous mosquito was never dreamed of as the carrier of the deadly poison. The opportunities were utilized to the fullest extent by a mind trained in analytical thought and practical scientific investigation to trace the etiology of the fevers, which were filling the hospitals under his

charge with victims and decimating the ranks of the army, as is the case in every war, more than the bullet of the enemy.

A peculiar circumstance called Dr. Wood's attention to the posible destruction by frogs of the mosquitoes before their maturity, except in outlying, isolated pools of water, near the main swamp, in which no frogs were found. In a village near a small swamp, abounding in frogs, no malarial fever had appeared until a resident found it profitable to sell them to fishermen, consequently within a few years he had exterminated whole colonies of young and old frogs, whereupon intermittent fever appeared in this immediate neighborhood. This was by no means an isolated case, the same results having been repeatedly noticed from this destruction of frogs in swamps. The crawfish seems to have some such influence in neighborhoods where they are abundant, more especially in wells and springs of water where typhoid germs were possible. Dr. Wood does not present these facts as an incontestable proof of a theory, but he thinks them of sufficient influence to attract the attention of scientists to that line of study which has heretofore been so rich in practical results and which may possibly disclose the etiology and point out the prevention of a class of fevers more generally prevalent and more prenicious than any other acute class of disease. When we become better acquainted with the frog he may be promoted from a disturbing element to a health officer, doing more efficient work than has ever been accomplished before.

THE KYMOGRAPH.

MR. FRANCIS KELLER gives an account in *Harper's Bazar* of the work he hopes to accomplish with a new instrument designed for use in securing the respiration and changes incident to disease. He says his anthrometric tests include about forty measurements of the body; the psychological include measurements of the five physical senses, of the mental faculties, of reactions and co-ordinations, and of the emotions. It is asserted by most writers that criminals are degenerate, diseased, and inferior morally and mentally, and that they possess qualities, as vanity, hatred, jealousy, etc., in excess of so-called normal individuals. These statements are based upon observations alone, and these tests were devised for the purpose of actually testing these alleged conditions. In addition to these measurements, full social facts regarding the parents, family, and training of the criminal are secured.

A NEW ANESTHETIC.

AS a local anesthetic for small operations—and sometimes for more complicated and lasting ones, such as the removal of tumors—cocaine, at present, holds the highest rank. But it is not without its dangers, especially in the case of cardiac and nervous individuals. Eucaine, which has been proposed as a substitute, is much less dangerous and considered good.

Another chemical substance, guaiacol, has lately been recommended by the eminent French surgeon, Just Championnière. The anesthetic properties of this agent are well-marked, and its hypodermic administration is perfectly harmless. Unfortunately, it is sparingly soluble in water, and oil must be used as the vehicle for injections.

According to a medical correspondent of *La Nature*, Dr. O'Followell has succeeded in producing a guaiacol compound which is free from this disadvantage. It is called guaiacyl, and is described as a calcic salt, obtained by the action of sulphuric acid on guaiacol. The mode of preparation is quite simple. Equal weights of melted guaiacol and monohydrated sulphuric acid are mixed together, and melted slowly over a water bath; to the product is added five or six times its weight of water. The excess of sulphuric acid is then precipitated by means of carbonate of lime, and the liquid being poured off and evaporated, guaiacyl is left behind, in the form of a gray powder, easily soluble in water.

After experimenting on animals, Dr. O'Followell employed guaiacyl for the extraction of teeth. The result was perfect, several molars being removed without pain, after an injection of five or six centigrammes under the gingival mucous membrane. For minor operations, as on wens, abscesses, felons, or carbuncles, the same quantity was equally efficient.

Being, therefore, both non-toxic and devoid of irritating qualities, this new anesthetic appears to be of decided value. In dentistry, at least, if the above claims are well-founded, it should take the place of cocaine.

VITAL STATISTICS IN HAVANA.

THE deaths in Havana during the month of February are less than in any preceding month during the last twelve years. The last February during the Spanish rule, 1898, the death-rate was 82.32 per 1,000, while last February, the third under American rule, gives us a death-rate of only 19.32, less than in many American and European cities, and placing Havana in the class of healthy cities of the world. Besides disinfecting the houses with formalin and other disinfectants, the rooms occupied by yellow fever patients are screened as the fever is reported, and all the mosquitoes in the house killed with the fumes of pyrethrum powder, at the same time covering with kerosene oil all places where mosquitoes can breed about the building. The same attention is being given to the sanitary conditions of the other large cities of the island as to Havana, with the same results. The chief sanitary officer, in his report, says that he thinks it probable that within a year or two Havana will have to take steps to protect itself from the Gulf cities, including New Orleans, Tampa and Mobile.

PSYCHO-PHYSICAL LABORATORY.

A BILL is now before the United States Senate for the establishment in the Department of the Interior of a Psycho-Physical Laboratory, with a salaried director, and providing for expenses incidental in the collection of sociological, anthropological abnormal and psychological data, including the study of criminal, pauper and defective classes, especially among children and in almshouses, hospitals and prisons. From the special data which will be gathered from laboratory instruments of precision, and such experiments in measurements as are generally considered of value by physicists and anthropologists, it will be seen the laboratory will be in the nature of a great statistical reservoir, from which individual scientists may draw facts and working material which may be utilized in remedying these great physical and social evils. The Department of the Interior, in its scientific work, in the help it brings to the agriculturist, the manufacturer, and, in fact, to almost all the industries of life, is constantly enlarging its sphere of action and bringing into active work all those elements of progress which are revolutionizing the world.

ARSENIC IN BEER.

THE report of Dr. Buchanan to the local government board in Great Britain, establishes beyond question the presence of a large proportion of arsenic in the sulphuric acid used in the preparation of glucose or brewery sugars. Steps have been taken to condemn beer containing as small a quantity of arsenic as one in 1,500,000 parts of beer.

A NEW electrical machine has been invented, says *The Evening Post*, by which, it is claimed, ice can be made in houses or apartments at much less cost than it can be furnished by any company. The machine is operated by a one-horse-power motor, which is declared to be capable of producing 1,200 pounds of ice in twenty-four hours, at a cost to the consumer of about $1. It is also declared by the electric company which is using the machine that a small refrigerating machine on the same principle can be installed in any refrigerator which will maintain an absolutely even temperature for a whole season, and that it will also produce small pieces of ice for an ice-pitcher, and may be used for freezing cream. In Hartford, Conn., the electric light company intends to lease the machines to householders, and charge them only for the current used in them. The new machine uses anhydrous ammonia, and its expansion is regulated by a small electric motor, which goes about its work automatically and requires no more attention than the usual oiling.

Errata.—In Dr. Jacquemin's article, on p. 71, first column, fifth and sixth lines, March number, read hypotrophy instead of hypertrophy.

BIBLIOGRAPHICAL.

DISEASES OF THE NOSE AND THROAT. By D. Braden Kyle, M.D., Clinical Professor of Laryngology and Rhinology, Jefferson Medical College, Philadelphia; Consulting Laryngologist, Rhinologist, and Otologist, St. Agnes' Hospital. Second edition, revised. Octavo, 646 pages; over 150 illustrations and six lithographic plates. Philadelphia and London, W. B. Saunders & Co., 1901. Cloth, $4.00 net.

The first edition of this work was exhausted in less than a year. The author has accordingly taken the opportunity of thoroughly revising the book and bringing the subject matter absolutely down to date. The work presents the subject of diseases of the nose and throat in as concise a manner as is consistent with clearness, keeping in mind the needs of the student and general practitioner as well as those of the specialist. The illustrations are particularly fine, being chiefly original. With the practical purpose of the book in mind, extended consideration has been given to details of treatment, each disease being considered in full, and definite courses being laid down to meet special conditions and symptoms.

PROGRESSIVE MEDICINE. A Quarterly Digest of Advances and Discoveries inn the Medical and Surgical Sciences. Edited by Hobart Amory Hare, M.D., assisted by H. R. M. Larchs, M.D. Vol. I. March, 1901. Lea Bros. & Co.

The volume contains:

1. Surgery of the head, neck, and chest, by J. Chalmers Da Costa, M.D.
2. Infectious diseases, including acute rheumatism, croupous pneumonia, and influenza, by Frederick A. Packard, M.D.
3. The diseases of children, by Floyd M. Crandall, M.D.
4. Pathology, by Ludwig Hextoen, M.D.
5. Laryngology and rhinology, by A. Logan Turner, M.D., F.R.C.S.
6. Otology, by Robert S. Randolph, M.D.

Each monograph has been prepared with such care that but little new thought in the medical world has been omitted. The index is copious and gives, at a glance, the subject matter of the volume.

PULMONARY CONSUMPTION, PNEUMONIA, AND ALLIED DISEASES OF THE LUNGS. Their Etiology, Pathology and Treatment, with a Chapter on Physical Diagnosis. By Thomas I. Mays, A.M., M.D. Illustrated. E. B. Treat & Co., 241-243 West Twenty-third street, New York. Price, $3.00.

The author, in his preface, says after one has devoted nearly thirty years to the conscientious study of a single line of thought, it is natural that ideas and convictions should be developed and formed which are not always in exact accord with orthodox teachings, and it is to bring these ideas more prominently before the medical profession this work has been prepared.

The author claims that pulmonary phthisis, in the large majority of cases, is primarily a neurosis, and that the pulmonary disintegration is secondary. That any agent influence, or condition which undermines the integrity of the nervous system, will engender pulmonary phthisis or some other form of pulmonary disorder. That the only remedies of value in the treatment of pulmonary phthisis are those which appeal to and act through

the nervous system. That of special value in the treatment of phthisis is the counter-irritant action of silver-nitrate introduced hypodermically over the vagi of the neck, and that acute pneumonia and other forms of acute pulmonary diseases are closely affiliated with disorders of the nervous system. Dr. Mays, a Professor of Diseases of the Chest in the Philadelphia Polyclinic, and as visiting physician to Rush Hospital for Consumption, has had unusual opportunity for clinical observation and study, and his conclusions, clearly and logically presented, will be of great interest and value to the profession.

THE CLIPPING-FILE. For Everybody's Use. A Boon to Literary Workers; a Mental Savings Bank. Clipping-File Co., Cleveland, Ohio. Price, $1.00.

The Clipping-File is a device for classifying and filing newspaper clippings, references to books and magazines, original articles, business papers, and all sorts of notes and memoranda—just what editors, pastors, teachers, students, and literary workers generally have been wanting.

A SYSTEM OF PRACTICAL THERAPEUTICS. Edited by Hobart Amory Hare, M.D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia; Physician to the Jefferson Medical College Hospital. Second edition revised and largely rewritten. Vol. II. Fevers, Diseases of the Respiratory and Circulatory Systems, Diseases of the Digestive System and Kidneys, Nervous Diseases, and Diseases of the Skin. With illustrations. Lea Brothers & Co., Philadelphia and New York, 1901. Pp. 926.

The second volume of this superb work is at hand, and it opens with a most practical and useful consideration of the subject of typhoid fever, by the editor, Professor Hare.

The same author writes equally good articles on pneumonia and upon intestinal parasites. The other twenty-six subjects are treated by authors specially selected because of their fitness for the work to which they were assigned.

In these volumes the greatest care has been exercised to present, in a useful form, what is known of the best methods of treating disease, and they contain a vast amount of information, covering the entire field of medical and surgical therapeutics, so that it may fairly claim to represent, with completeness, the practical aspect of the subject, as it exists at present, and the work cannot fail to prove an efficient aid to those for whom it is intended. What we said of the previous volume might be repeated in respect to this one, in some aspects, with emphasis, but the two form one grand whole, which completely encompasses this great subject, so that no one can be disappointed in its perusal. This work should be in the hands of every general practitioner.

A MEDICO-LEGAL MANUAL. By William W. Keysor, Lecturer on Medical Jurisprudence in the Omaha Medical College, and Judge of the District Court, Omaha, Nebraska. Omaha, The H. J. Penfold Co. Pp. 316, octavo. Price, $2.00.

The aim of the author has been to state with emphasis the legal side of medical jurisprudence, to furnish a variety of useful information on these topics of importance to medical practitioners, and to familiarize the physician with those terms and principles which are necessary to an expert witness, and the work has been done in the interest of the medical man, rather than the lawyer. It is just the work for the busy general practitioner, as it is concise, practical and to the point.

FIFTEENTH ANNUAL REPORT OF THE STATE BOARD OF HEALTH AND VITAL STATISTICS OF THE COMMONWEALTH OF PENNSYLVANIA FOR 1900. Two volumes.

OBSTETRIC AND GYNECOLOGIC NURSING. By E. P. Davis, A.M., M.D., Professor of Obstetrics in Jefferson Medical College and Philadelphia Polyclinic. 12mo, volume of 402 pages, fully illustrated. Philadelphia and London: W. B. Saunders & Co., 1901. Price, $1.75 net.

This volume is designed to furnish instruction as to the various duties of the obstetric and gynecologic nurse. Obstetric nursing demands some knowledge of natural pregnancy, and of the signs of accidents and diseases which may occur during pregnancy. It also requires knowledge and experience in the care of the patient during the labor, and her complete recovery, with the needs of her child. The obstetric nurse must also know how to help patient and doctor in the accidents and complications of labor, and has an important part to play in caring for mother and child in the diseases which occasionally attack them during the puerperal period. Gynecologic nursing requires special instruction and training, and a thorough knowledge and drill in asepsis and antisepsis are absolutely indispensable.

THE HISTORY OF MEDICINE IN THE UNITED STATES. A Collection of Facts and Documents Relating to the History of Medical Science in this Country, from the Earliest English Colonization to the Year 1800; with a Supplemental Chapter on the Discovery of Anesthesia. By Francis Randolph Packard, M.D., of Philadelphia. Octavo. Cloth, gilt top, deckle edges. 526 pages. 25 full-page illustrations. J. B. Lippincott Company, publishers, Philadelphia. $4.00, net.

Dr. Packard's history is of special interest to the American physician. It is not merely the annals of so-called medical center, but is a concise and graphic account of the rise and progress of medical science in all its departments throughout the entire country. The records of the great epidemics which, from time to time swept the country, have been brought to light, from newspapers and old pamphlets, as well as the beginnings of the colleges, hospitals and medical societies which have accomplished so much. The book is pleasantly written, and contains many rare illustrations.

FISCHER: INFANT-FEEDING IN HEALTH AND DISEASE. A Modern Book on all Methods of Feeding. For Students, Practitioners, and Nurses. By Louis Fischer, M.D., Professor of Diseases of Children in the New York School of Clinical Medicine. Containing 52 illustrations, with 16 charts and tables, mostly original. 368 pages, 5¾x8 inches. Neatly bound in extra cloth. F. A. Davis Company, publishers, 1914-16 Cherry street, Philadelphia, Pa. Price, $1.50, net; delivered.

Dr. Fischer's long experience as a clinical teacher and his rare facilities for clinical work in the large hospitals and clinics with which he has been connected, at home and abroad, give his work exceptional value from a prac-

tical standpoint. The scientific details are given in such simple language as to be easily understood by an intelligent mind.

DISEASES OF THE HEART. By A. L. Blackwood, M.D. Halsey Brothers' Co., Chicago, 1901.

The various forms of heart trouble, etiology, pathology, symptoms and treatment are very clearly given. The treatment from the homœopathic standpoint includes the most advanced and thoughtful practice of that school, is concise, eminently suggestive, and thoroughly practical. The physician of all schools may consult its pages with profit.

"THE COUNTRY DOCTOR"—A NOTABLE PICTURE.

ONE of the most important and admired pictures displayed in recent years at the National Academy exhibitions is "The Country Doctor," by Mr. W. Granville Smith.

The artistic merits of this notable picture are certified by its place of honor in the chief American art exhibition; its power of appeal to human sentiment was evidenced by the persistent attention it attracted, touched by its reality, its homely humanity, its suggestion of pathos.

"The Country Doctor" is a vivid portrayal of a familiar episode—a furious winter night tempest, a long struggle through drift and storm at duty's call, an exhausted old doctor struggling wearily forward, a fatigued horse shrinking in the blinding snow-blasts, an anxious mother eagerly waiting the longed-for relief. From the porch of her humble country home she peers eagerly out into the storm. The lantern she holds above her head cuts a feeble path of light through the gloom, along which the doctor plows his way to shelter.

The artist has just isued a special art reproduction of his painting, 16½x24 inches, with ample margin all around, which is an absolute *fac-simile* of the original in drawing, color and tonal spirit, on the finest of heavy plate paper, mounted with gold mat and inclosed in substantial box.

The edition is limited to 250 copies, and is sold, subject to examination and approval, at $8.00 each. He sends photograph on application.

Those who desire a copy should not delay in addressing the artist, at 52 East Twenty-third street, New York, as the edition is likely to be soon exhausted.

CORRESPONDENCE.

TEXAS MEDICAL LAW.

Texas has enacted a medical law which becomes effective July next.

1. Three boards of medical examiners are provided, Allopathic, Eclectic and Homeopathic, each composed of nine members, six constituting a quorum.

2. Candidates are to be examined upon the following subjects: Anatomy, Physiology, Histology, Pathology, Chemistry, Materia Medica, Therapeutics, Practise of Medicine, Surgery, including diseases of the eye, ear, nose and throat, Obstetrics, Gynecology, Hygiene and Medical Jurisprudence.

3. In case applicant shall fail to pass the examination, he or she shall not be permitted to go before the board again for one year thereafter.

4. Three members of the board may be appointed by the president, to examine a candidate and grant a temporary certificate, if found qualified, which shall entitle him to practice until the next regular meeting of the board.

5. Physicians holding a certificate from a State board whose medical law is as thorough as that of Texas, and whose certificate bears the endorsement of the president and secretary of the board that issued it, may have a certificate issued without examination, by paying the usual fee of $15.00.

There is no country in the world that holds out so many inducements to homeopathic physicians as Texas. Every business and industry is in a flourishing condition. Our climate is unexcelled. For further information address W. D. GORTON, M.D.

PARIS LETTER.

To the Editors NEW YORK MEDICAL TIMES:

The French have been regarded by their Anglo-Saxon neighbors across the sea as the most immoral of any so-called civilized peoples. I wish to combat that imputation. According to my observations, and such information as is accessible to me, the French are the most orderly, methodical, sober, decent, civil, and law-obeying people which I know anything about. There is no drunkenness in Paris, no street-begging, little vulgar rowdyism, except it be political rowdyism. The low groggeries and other places of vile resort, such as may be found in profusion in New York, are mostly unknown. One does not see, on the streets in Paris at night, women in search of prey, as one may do in New York. It is true, the young people of the middle class have their fêtes, and go to places of entertainment and amusement, and have a justly good time together; but, to the eye of the observer, there will be no exhibition of misconduct, indecorum, not to say indecency. Some of them may select, at the close, their partners for the night, in a quiet way, but it will be, for the most part, such as have no reason for secrecy in the affair; that is to say, single men and women without vows of fidelity to another. There is no law against this practice. It is a strictly private business with which the public, wisely or unwisely, does not concern itself. So far as my observation goes, the respect which the French pay to marriage and its obligations is not inferior to that of any other people.

French women paint and powder freely, and wear a profusion of hair, artificial or otherwise, in an effort to appear young, or to prolong their youth. They also pad and lace themselves, that they may make approach as near as may be to their ideal of form of female beauty. But all this is for appearance's sake, and to gratify a vanity more or less excusable in the sex, if not commendable. All this is, of course, in the line of the objective existence to which both sexes are devoted, and for which all else is sacrificed. To eat, to drink moderately, to dress, to enjoy this world, and to make the best use of it, according to the standards of the sensuous taste, is the ambition of the Frenchman. His first purpose is to live his life here and to enjoy it, and if there be a life for him on the other side of the Shadowed River, he will deal with that when it is his, and enjoy that, too. Away with dull care, away with long faces and psalm-singing, the typical Frenchman affects to say.

Nevertheless, the mass of the French people are religious, if belief in the supernatural and devotion to the forms and ceremonies of the mediæval Christian Church constitutes religion. No nation on earth spends so much money in church service as the French; no nation spends so much on churches as the French. Her

churches and cathedrals are the finest in the world. Instance the Madeleine and Notre Dame. But they are mediæval, it may be said. Very well: look at La Sacré Cœur, a cathedral in course of construction at the present time on the summit of Montmartre, that bids fair to equal, except in its monuments, paintings and stained glass, some of the older structures, and paid for by the voluntary contribution of the pious bourgeois devotée. What a significant phenomenon this is, this devotion to the marvelous and supersensuous! Only the day before yesterday, January 3rd, was celebrated the fête of Ste. Geneviève at the venerable Church of St. Etienne. It was a curious throng that flocked to this place of worship on the 3rd inst., to pay their devotions to the shrine of "the patron saint of Paris." Here is built a sarcophagus that is supposed to contain what is mortal of this marvelous girl, around which candles burn perpetually, and before which worshipers in rags may be found on their knees from morning until evening, every day of the year. The reader of French history will recall the marvelous career of little Saint Geneviève; the story of how, with the cross alone, she relieved the siege of Paris by the Huns under Attilla, in the third century, and preserved to the French this beautiful capital, then in embryo. It is a story of the miraculous, which the common people believe and take a pious pride in celebrating to-day. Paris would not be Paris but for its cathedrals, and its cathedrals would never have been built and perpetuated but for the religious sentiments which animate the hearts of the French people—the priests and bourgeois chiefly, for the thinking and philosophic classes are mostly agnostic, and take little interest, except as psychic phenomena, in the rites and rituals of the Church.

Another characteristic of the French that strongly impresses the foreign observer is their devotion to a single idea, pursuit or occupation. This is especially noteworthy among the upper and professional classes, and it is chiefly for this reason, I think, that the French do everything so well. The professional man, for example, will confine himself strictly to his profession. He does not profess to know anything else. A physician in America will practice medicine and at the same time edit a medical journal, or write essays for the magazines and newspapers, or write novels; American lawyers may write compends and digests, indulge in politics and the stock market, or aspire to a seat in the Legislature; American writers and poets may have an office in Wall Street, be members of the Stock Exchange, or practice medicine or law. It is different with Frenchmen at the French capital. There one speciality is enough to engage the powers of one and the same person, with the result, as I have said, to make him distinguished, or, at least, thorough in that specialty. It is for this reason that one finds less general versatility among the French than among the American or English professional classes. And if one would be interesting to a Frenchman, converse with him on his specialty; medicine, if he be a physician; law, if he be a lawyer; art, if he be an artist, and statecraft, if he be a politician. One will find him equal in his sphere or calling—less so out of it.

Another result of this peculiarity is, I think, to limit the number of professional men in the State—to develop fewer men and women of note, but to make that fewer more efficient in their handicraft or calling. I am not unmindful of the influence which governmental restrictions aid this result; or the effect which educational requirements of the government, as preliminary to the study and practice of a learned profession, have in producing this result. Accordingly, I believe that the average intellectual qualification—I will not say standing—of the medical profession in Paris is superior to that of New York. The same remark is true, I think, of law. The lawyer class, with its cloak or toga and baretta, its dignity of bearing and address, impressed me as being composed of a very superior class of men.

Another point on which the governmental heel is felt in France is the establishment or existence of private sanitariums for the treatment of the sick. They are almost unknown in the French capital, while in America any one with a sheepskin certificate of qualification to build up for himself a clientèle or following, may open a house which he calls a sanitarium, and invite by advertising, pictorially and otherwise, the gullibly ill to come in and be cured at so much—a profitable sum—per week. To my mind this evil stands, or ranks only second to, the pauperizing dispensary evil. It is well known that the proprietors of many of these sanitariums are grossly incompetent to deal with maladies the nature of which they know nothing but which they pretend to cure, and that their patients are victims of arrogant pretense. This trade could not exist in Paris, unless the follower of it could show more evidence of his professional ability to practise on the ignorant and diseased than a knowledge of the various modes of applying water, or of using the numerous mechanical and electrical devices, magnetic and manual massage, machinery for gymnastic exercise, and of other claptrap to entrap the gullible that the cunning of greed devises The French are a liberty loving people, but they are wise enough to draw the line on personal liberty at the point where it runs into a license to drug and take advantage of the weak and unfortunate.

After all this wise guardianship of the public against the wiles of medical charlatanism, one is surprised to note the following that our amiable Mrs. Eddy has in Paris. Not much is heard of Christian Science, but it exists there rather as a cult, I believe, than a system of curing disease. Its votaries are very quiet and make no stir in the social swirl. That is in accordance with their policy everywhere. I could not learn that the Christian Scientists had established a church in Paris, but I know they have rooms for holding "divine" service and glorifying the Sage of Concord, the Right Reverend Mother Eddy. I doubt its success there; the thinking class is too learned; the unthinking are Roman Catholics and are too devoted to their own patron saints to accept the claims of the modern and less venerable ones.

In concluding my letter, perhaps too long drawn out, I would not fail to note the respect and admiration in which American surgeons are held in Paris. A Parisian surgeon of note does not hesitate to admit that American surgery leads the world. Our medical schools, too, are rising in European repute. Special mention was made in my hearing of the medical school and hospital of Johns Hopkins University, Baltimore, deservedly so, probably.

Paris, January 5, 1901. D. A. G.

DELUSIONS OF THE SANE.

MUCH criticism has been provoked from neurologists and others by the testimony of Prof. Austin Flint in the contest over the will of the late Miss Brush, Christian Scientist.

Prof. Flint is not, strictly speaking, an expert in diseases of the mind and nervous system, but he has made for himself a distinguished name and place in the

world as a physiologist and an all-round physician. He is thus qualified to express an opinion on the subjects of sanity and insanity that is entitled to respect by the scientific world, though he may never have seen the inside of a lunatic hospital, nor given much attention to the pathology of its inmates.

For my part I am inclined to agree with Dr. Flint's view of delusions, not that there are two kinds of delusions, but that there is justly a distinction to be made in persons subject to them. As a matter of fact, perfect sanity is a mental state, rarely—perhaps never—to be found; and if one is to be disqualified from disposing of his affairs because he is a little off mentally in some particulars, or holds peculiar views, the Surrogate Courts would have to be multiplied manyfold to adjudicate the cases that would be brought before them.

Mental sanity, which implies mental balance, gives its possessor the power to sift evidence and to accept or reject conclusions in accord therewith. Such a one has no trade-mark hypotheses, nor fixed opinions on unsettled problems, nor beliefs which he is not ready at all times to abandon or modify in accordance with fuller knowledge and a riper experience. The love of truth constrains him, rather than the pride of consistency. Accordingly, what he believes to-day he may repudiate to-morrow, and very properly so in an age when invention and discovery are rendering untenable the most cherished beliefs and hypotheses in every department of knowledge, and bringing many things under the dominion of Science that have heretofore been relegated to the domain of Faith. One's first allegiance is to reason. Faith may be left to take care of itself. Perfect sanity implies the power to keep step with the advance of knowledge, and to change one's convictions with the ever-changing phases of scientific thought. Nothing less than this can put an end to the caprices, fancies, and fads which prevail among quassi intelligent people of to-day, to the disturbance and disgrace of our boasted civilization.

But it is hardly consistent with rational ideas to relegate such as cannot mentally adapt themselves to the progress of ideas to the domain of the irresponsible. There are multitudes of people, manifestly capable of making a valid will, who believe literally the biblical account of Noah's Flood. The Rev. Dr. Wright, Professor of the "Harmony of Science and Religion" in Oberlin College, is in Asia at this writing losing time in the vain endeavor to prove the fact of the Deluge as recorded in Genesis. It is generally conceded by scholars that the Flood covered the valley of Mesopotamia in the region of Mount Ararat—the whole world, so far as Noah knew. Local evidence of it has been found; but its universality to the extent of "covering all the high hills that were under the whole heavens" must forever remain to be proved. But many good and sane people, that is, people sane enough to make a valid will, believe it, some of whom it would be difficult to convince by argument of its fallacy. Possibly Dr. Flint believes it himself, if he has never been argued out of the belief, although it is a physical impossibility, since the atmosphere could not hold so much water. The same may be said of the belief in the literal resurrection of the dead, so widely entertained by Christian and Moslem peoples, whom nobody would accuse of insanity, or as being incapacitated thereby from making a will. So, likewise, it is with belief in the story of Jonah and the fish. Most Christians and Jews believe that Jonah miraculously defied the powers of digestion in the belly of the fish, during three days, and was then ejected whole and uninjured. (As to the fate of the fish from so indigestible a morsel, the account is silent.) It is an irrational belief, because such a fact is inconsistent with the generally accepted and demonstrable laws of physics and chemistry; and those who hold to the belief are a little off mentally.

I need not confine myself to illustrations of sane delusions to persons of a religious bias. The profession of medicine abounds with them. I have personally known men of strong commmon sense and learned in the technique of their profession, who held the firmest convictions as to the power of the infinitesimal dose to cure very grave diseases, doses so small, indeed, as to defy computation, so small, in fact, that an expert mathematician would not hesitate to swear that there could not possibly be a single atom—the atom of Dalton, the atom beyond which there is no divisibility—in ten thousand barrels of the dilution, a teaspoonful of which would constitute a dose! So strong was the faith—I am happy to be able to put this sentence in the imperfect tense—so strong was the faith in the power of these high attenuations to cure, that malignant diseases, such as diphtheria, anthrax and malignant pustule, have been treated with them with perfect trust in their efficacy by physicians whom no one would suspect of being of unsound mind. Nor were they on other subjects. They were simply a little "cracked" on the subject of high potencies, just as the Christian Scientists are a little "cracked" as to the power of mind—the objective mind—to set a fracture or reproduce a leg.

No greater delusion ever possessed the human mind, outside of a lunatic asylum, than that of faith in the efficacy of the royal touch in the case of disease. At one time since the revival of letters it infected all classes in England, the ignorant and the educated alike, both physicians and lay people. Samuel Johnson was touched royally for epilepsy at the instance of his mother, but with non-effect. Charles II. is said by Dr. Wiseman, a prominent physician of that day, to have "cured more in one year than all the chirurgeons of London have done in an age." Even Bacon believed in charms and amulets, and the learned Boyle prescribed the ashes of a thigh bone of a criminal for epilepsy. For the same malady, Pliny recommended stones taken from the claws of swallows; Alexander of Tralles advised the skull of an ass, and the ashes of blood-stained clothes of gladiators; Artemon prescribed dead men's skulls, while Antheus treated convulsions with human brains—a proceeding no more irrational than that of treating them with thyroid extract, as at the present day, by physicians above the suspicion of being subject to insane delusions.

A few years since, a well known physician who held fast to the faith of Hahnemann, a man of good standing among his colleagues, respected by the public, and an author of a work on practice, assured me that he had just succeeded in aborting typhoid fever in the case of his own son with the five-thousandth of bryonia—a dose so small that it would be impossible to imagine it. Let us suppose Noah's Flood to have been universal, and, accordingly, to embrace a sphere of water of sufficient magnitude to cover Mount Hercules, which is 32,768 feet above the level of the sea, or more than 16,000 feet higher than Mount Ararat, on the top of which the ark rested or is supposed to have rested: One grain of a drug dissolved in this vast zone of water would only approximate the dilution of the five-thousandth potency. And this was approximately the dilution of bryonia which was supposed to have arrested the usual course of typhoid fever! No claim of the Christian Scientist is more absurd than this. Yet this gentleman met my

look of incredulity with an air of perfect assurance. He was perfectly sincere in the belief that the small doses of the infinitesimal drug had wrought this marvel on his son. It is a degree of credulity, however, that transcends that exhibited by the Christian Scientists. For one may reasonably concede some efficacy in prayers (if made by the righteous), but no perfectly sane person—that is, an all 'round sane person—could conceive any efficacy in a medicine thus attenuated. This worthy gentleman suffered from delusions as to the specific powers of medicaments, and died leaving no suspicion of having been insane. Nor was he insane in the ordinary acceptation of that term. Such a belief is, nevertheless, irrational, and those who entertain it must be regarded by the common sense of mankind as more or less irrational; that is to say, a little off mentally.

But what judge would hold that they were incapacitated on that account from making a valid will? Belief in these extraordinary things—these *post hoc propter hoc* cures—constitutes a delusion in one who has been *taught to believe them,* just as much as does belief in the power of mind to set a broken bone, arrest hemorrhage, or reproduce an amputated limb, as held by the modern Christian Scientist. The belief in such a power would be an insane delusion in one who, having outgrown the idea of the miraculous, should return to it, for then he would no longer be amenable to reason, but in contempt of it. This I understand to be Dr. Flint's position. I quote from the testimony as reported in the *New York Times,* February 22, 1901:

"Do you believe that if a person was run over by a street car and had a limb cut off, and was bleeding to death, that that person could live if he or she refused the attendance of a surgeon?"

"Oh, no."

"Would such belief be an insane delusion?"

"Not if the person could be convinced that it was necessary to have a surgeon."

"Would it be an insane delusion if you believed that all your blood could be taken out, and then you could be made to live by the power of a Christian Science healer?"

"With myself it would be the most insane delusion that it is possible to think of."

According to Dr. Flint, therefore, the distinction between persons subject to delusions is that the sane person is amenable to reason and can be argued out of his delusions; the insane person is one in whom delusions are fixed, and who cannot be persuaded of their irrational or delusional character. This proposition is absolutely correct, and cannot be successfully controverted.

With the irrational beliefs and claims of the Christian Scientists, I, of course, have no sympathy. Nevertheless, if the hypothetical question had been read to me that was read to Dr. Flint as a test whether the decedent were sane enough to make a valid will, I should have answered the question in the affirmative, as did Dr. Flint.

DAVID ALLYN GORTON, M.D.

Dr. Henry M. Smith, of this city, died suddenly at the home of his daughter, at Escondido, Cal. He was born in New York in 1835. He was graduated from the New York Medical College in 1860, but practiced his profession to only a limited extent, as he was for forty years actively engaged in the pharmacy established by his father. Dr. Smith recently gave to the New York Public Library his collection of medical books. He leaves a widow, a daughter and three sons.

Treatment of Facial Neuralgia.—Here is a patient who wraps herself up to keep the cold off her face, and she has on her face also a sort of unilateral wrap which she has invented for herself. She says she suffers excruciating pain over the left side of her face and head, which she can trace out exactly along the distribution of the trigeminal nerve on the left side. She has lost all her teeth—has had them extracted. This rarely gives relief, and unless there is some manifest reason for having the teeth extracted you had better leave them in. I have known people to sacrifice a good set of teeth for this reason. I have even seen it stated that the disease may set in after the teeth have gone; trigeminal neuralgia has been said to have its starting point in the extraction of teeth. On the other hand, I have seen neuralgia result from carious teeth and relieved by this extraction.

You may have noticed an aroma of peppermint in the room; she claims to obtain relief from its use. The treatment is altogether empirical. As one writer says: The physician must debase himself to the level of the empirist, and try one remedy after another until he finds one that relieves. I had under my care one young man who is very frail physically, and works incessantly, who has most frightful attacks of neuralgia, of the cervico-occipital kind. I will treat an attack, and after some time of dreadful agony he will be relieved. Once quinia cured him, and the next time it gave no relief. Iodide of potassium and then the coal tar products would help him. During the summer, in my absence, he fell into the clutches of my son, who tried cannabis indica with success. When I returned he had another attack and cannabis indica did no good.

Of course if the neuralgia is intermittent you will give quinia, and from the fact that it does good we judge it is probably malarial. The malarial type is apt to be supraorbital. If the case is anemic we give iron. In this city, a few years ago, prussian blue was used a great deal, an inelegant preparation, but simply a preparation of iron. It was a drug that had quite a reputation as "neuralgia powders," in 10 to 15 grain doses. Aconite is a good drug. One French pill—a most beautiful-looking pill—is composed of aconitin and quinine. I have prescribed a pill of quinia, two or three grains, and $^1/_{12}$ grain of aconite.

℞ Quin. sulph.....ʒ ss.
Aconiti ext.....gr. j
M. Ft. pil No. XII.

You may put in ¼ grain arsenious acid or ⅛ grain arseniate of iron.

Gelsemium, which authorities recommend, I would be chary to use unless under constant supervision as in a hospital. Gelsemium I would be very careful with. A croton chloral at one time was thought to have some specific action. We have used five grains every two or three hours. It is better put in a capsule. We always feel like avoiding the use of morphine under such conditions, but if the patient cannot be relieved he will use morphine, and who would blame him? The effect of morphine under these conditions is different from that in health. Pain and morphia are antidotal, and it is better for the physician to give him morphia than to let him suffer from the pain. What else is morphia for than to relieve pain? Cutting out the nerve is done as a last resort, often useless.

A.

—It is said (*Med. Visitor*) that a few drops, ten to twenty, of a good tincture of catnip, the common name of nepeta, in hot water every hour, will break up a cold in less time than any other remedy.

SOCIETY REPORTS.

PRESENTATION TO THE ACADEMY OF MEDICINE OF A BUST OF THE LATE DR. HORACE GREEN— REMARKS BY DR. D. B. ST. JOHN ROOSA.

Mr. President and Fellows of the Academy of Medicine:

I think it may be safely said, that there is sometimes a suspicion in the minds of the medical profession that the public at large does not fully appreciate its work. While there may be individual over-appreciation and gratitude, the general consensus of opinion as regards our usefulness in the world, is not what most of us think we might properly expect, but on this occasion I did not come here to discuss this subject. Be it true or untrue that we are properly esteemed, we certainly must not fail in our appreciation of the masters of our art. Those who decided upon the names for the prospective Hall of Fame, lately erected in our city, did not choose one member of the medical profession. Among all the illustrious physicians and surgeons of our country, who have contributed to the mitigation of human woe and the lengthening of human life, not one was considered worthy of having his name placed in this Wahlhalle. Not even that of Ephraim McDowell, who first performed the operation of ovariotomy, whereby thousands upon thousands of human lives have been saved throughout the world, or of Marion Sims, who, in another direction, cured what was hitherto incurable, mitigated what was hitherto without relief, and chief of all, a dentist, but at the same time a student of medicine, or of W. T. G. Morton, who first, with the assistance of Warren, in the Massachusetts General Hospital, procured the inestimable boon to the human race of general anesthesia. Not one of this illustrious trio was deemed worthy of a place in the Hall of Fame. The inventor of the sewing machine, the discoverer of the electric telegraph, rightly have their places there, but I leave it to you, gentlemen, whether our discoverers also did not deserve the recognition. If the public will not properly estimate the work of those who have left an indelible impress upon the medical and humane history of their time, we, their pupils and their successors, must, at least, see to it that they are not forgotten in such halls as this.

In that immortal poem, written in a country churchyard in England, with which all of us are familiar, the pertinent query is made,

"Can storied urn or animated bust
Back to its mansion call the fleeting breath?
Can Honor's voice provoke the silent dust,
Or flattery soothe the dull cold ear of Death?"

It is not for the dead but the living, that the storied urn and animated bust, are placed where they may call the attention of the younger generation to the deeds of the elders. They turn from their face, to their histories and receive an inspiration and new vigor for their work. In reading these histories they find that no success in such a great calling as ours is achieved without extraordinary labor and extraordinary self abnegation. Our heroes quite as often wear the martyr's crown as the laurel wreath, and he who endeavors to stand out, doing his very best for what he believes to be true and right, must often expect this, but the recognition and applause of those who live up to it, is the real reward which can not always be experienced by him who deserves it, but must exist only as honorable fame in the minds of those who have succeeded the victor. Never will it be effaced from my memory the scene in this Academy when Horace Green, whose bust I am about to offer for its acceptance, stood accused of improper practice, with the prevailing sentiment against him, yet with a nobility and serenity of bearing, which could not be forgotten. This is a scene, however, that we all are willing to forget; we shall much prefer to look upon the man who was thus assailed, as he is rewarded now by the profession in which he labored for us many years. One of the former presidents of the Academy, Dr. Jacobi, had the opportunity of knowing Dr. Green, and of being with him during some of his working hours, and of seeing a novel treatment of the larynx, then only practised by him, and as has been intimated, the present speaker heard him on his defense before this Academy, a defense made necessary only because he was in advance of his time. I am informed by those competent to speak in this great specialty of laryngology, that Doctor Green's work has had abiding results, and that he was a pioneer of real merit.

His personal characteristics have been often described but in no more pleasant words than those of one of his early biographers, who speaks of him when he left the high school and began to be a teacher, as of gentle and winning manners and having a sound education fit to inspire and instruct youth. It is as a pioneer in what has become a great specialty, a misunderstood and misinterpreted pioneer in some directions, but still a pioneer, clearing the way, that I have the honor in behalf of Mrs. Green and his distinguished son, Mr. George Walton Green, to present this bust to this Academy.

THE AKOUPHONE AND AKOULALION.

MR. M. R. HUTCHISON, in demonstrating this subject before the Section of Otology of the Academy of Medicine, said that in treating the subject of deafness from the standpoint of a mechanic and engineer, he considered the ear merely as a piece of machinery, subdivided into its integral parts, which individually perform certain functions when acting in normal healthful conditions. For several centuries the attention of scientists had been turned toward the partial relief of deafness by the substitution of mechanical contrivances to perform the functions of the mechanical parts which have deteriorated.

In 1840 Marcus Banzer constructed an arrangement consisting of an ivory tube, over which was constructed a portion of a pig's bladder. This was introduced into the auditory canal. In 1765 Leischvin, in 1815 Antereith, and in 1840 Lincke, used similar devices, more with a view of protecting the middle ear in the case of a perforation of the tympanum than for any auditory aid. In 1848 Dr. Yearsley, of London, England, found that little pellets of cotton introduced into the ear in many cases enabled the person to hear. Since that time there have been various disks devised, constructed on more or less scientific principles and which possess merit for certain classes of deafness. The introduction of a foreign substance into the ear is a difficult undertaking in some cases, as it seems to be quite a hard matter to keep down suppuration. Possibly the most efficient and satisfactory aid to the ear was devised by Enoch Henry Currier, M.A., Principal of the New York Institute for the Instruction of the Deaf, commonly known as a Currier Conversational Tube.

These contrivances have all been of use to a small per cent. of the partially deaf, but there has never

before been devised an instrument that would enable those who were stone deaf, or those extremely hard of hearing, to hear to any satisfactory extent. It is, of course, a fact that the total destruction of the auditory nerve is beyond hope, and no instrument will ever be devised that will reach such a case; but it is also a fact that mistakes are often made in the diagnosis of a case in rendering a decision as to total paralysis of the auditory nerve when such does not exist. A very conservative estimate of the total number of deaf people which he had tested within the past four years, placed those who were utterly unable to hear sounds by means of his strongest electrical apparatus, at 5 per cent. Twenty per cent. of the deaf are not handled to a practical extent by these instruments. They may be able to hear sound, but the inability to distinguish between sounds is lacking, and they seem beyond hope. The remaining 80 per cent., if handled in a practical manner, can be reached successfully.

In speaking of these 80 per cent. he divided them into three classes: First, those who are totally deaf, or deaf mutes; second, extremely hard of hearing persons; and third, slightly hard of hearing. To the first class belong congenital deaf mutes, and also persons who are considered totally deaf, but who could once hear. With the former, although they hear the sound of words, having never before experienced this sensation, they are not able to understand what sound is, and it is a very laborious task at first to get them to distinguish between sounds. Also there is to be contended with the lack of desire on their part to hear, as, never having heard, they naturally do not appreciate what they are missing. This is possibly the hardest class to handle, and it is very rare that anything is ever done with this class after they have reached maturity; for, having no time to devote to learning the meaning of all the different sounds, they naturally are reticent about undertaking a task that they consider of so great a magnitude. With children, however, the case is diffenrent. They are attending the magnificent institutions of our country, where the most brilliant minds of the age are devoting their lives to the relief of the unfortunate conditions of these children. Their minds are in a receptive state, and a course of instruction instituted in the regular curriculum of these schools, and which would enable a competent instructor to teach the children the meaning of sound—the difference between sounds—the sound of words connected with their meaning—and being able to *hear their own voices* in repetition after the teacher, the children would naturally cultivate a normal tone and perfect articulation. Therefore it is rare that a perfectly easy flow of words is accomplished with the present system.

He considered it marvelous that so much had been and is being accomplished in this direction, when it was considered that the pupil neither can hear the sound which he or she is trying to imitate, nor hear the sound of the voice in repetition. Let it be thoroughly understood that although a deaf mute has been thoroughly educated in lip reading, and can speak himself, when he hears words spoken to himself he does not know what they mean. An analogous case would be that of a person who has always been blind. He knows a table, a book, or a chair, by the sense of touch but if such a person should suddenly receive his sight, he would become totally confused, and it would take a long time and much effort on his part to learn to correlate the image of the thing with the name of that object and have a thorough understanding of these two. Also, if a person had been totally deaf for quite a length of time, not having heard the sound of articulate speech for so long a time, they naturally forget what words, etc., sound like, and, although they have more of a foundation to build upon than that of the congenital deaf mute, still it is a matter of practice before they become familiar again with sound, even when presented with such tremendous magnification and precise articulation as is accomplished by the Akouphone or the Apoulalion. He had known a number of instances in which persons had been totally deaf for a number of years and who had forgotten how to understand speech who had, by means of these instruments, again become familiar with words by having practiced talking to themselves. In fact this is the quickest and most satisfactory way of reaching such a case.

To the first class belongs the Akoulalion, the name being derived from the two Greek words "Akou," to hear, and "Laleo," to speak, and which is intended to convey the idea that by hearing they are taught to speak correctly. This instrument consists of two instruments, known as the Pupil's Stand and the Teacher's Stand, respectively.

The Pupil's Stand is provided with two ear pieces, which are mounted on an electric spring which clamps the ear pieces against the ears. On each of these ear pieces is mounted a pneumatic cushion, which may be removed if desired, to correspond with the nature of the deafness, as explained later. On this base is likewise mounted three vertical rods, upon which slides a small hard rubber carriage having mounted upon it the receiving instrument into which the pupil speaks when he wishes to hear his own voice. Connected with the Pupil's Stand is the teacher's outfit which likewise has a round base, having mounted upon it a somewhat similar set of vertical rods having a small carriage supporting a similar receiving instrument. The height of the receiving instrument in both cases may be adjusted to conform to the height of the pupil or teacher when using the instrument. To the teachers' outfit is attached a wire leading to the electric battery to which can be situated anywhere in close proximity to the instrument. The Pupil's Stand is likewise connected to the Teacher's Stand by a three-conductor flexible cord. The phonograph attachment is also attached to the Teacher's Stand. This latter attachment can be adjusted to any phono-

It is almost universally the case that one ear has graph, gramophone, or other talking instrument. slightly more hearing than the other, and for this reason it is necessary not only to adjust the amount of sound going to or being received by the ears of the deaf mutes, but also to regulate the intensity of the sound delivered to each individual ear. This is a vitally important thing, and alone places the Aloulalion far ahead of similar devices.

By alternating instruction by simple, rhythmic music, an appreciation of music is cultivated along with that for articulate speech.

The question naturally arises, what will be the eventful outcome of the course of instruction with the Akoulalion? A person cannot use so large an instrument in the transaction of every-day affairs, and naturally must be able to use a smaller instrument, which can be carried around with him. He answered that question by stating that the Akouphone, or small portable instrument, could be made

just as powerful as the Akoulalion, but the later possesses many advantages in there being a tremendous increase in the articulation of the word and the application of the sound to both ears at once, and the ability of the pupil to hear and speak the words in immediate repetition after the teacher. So, having learned the meaning of the sounds, such a person can provide himself with a small portable Akouphone, by means of which he can transact ordinary every-day intercourse. It is likewise a fact that the continued use of the Akoulalion has improved the hearing of quite a large per cent. of the deaf. It is but natural to suppose that a function which is inactive, when exercised will naturally have a tendency to awaken and perform its natural function more effectually, provided there is not some destruction of the nerve itself. He had known of many instances of persons being able to hear perfectly with the Akouphone or the Akoulalion who had no appreciation whatever of sounds by the ordinary tuning fork, or the shrill Galton whistle. He could not explain it, but it was true nevertheless. He was led to believe, by a very extensive series of experiments with the instrument, that the destruction of the auditory nerve is the only thing that will prevent sound from becoming intelligible. Likewise persons who, by the tuning fork tests, have an appreciation of certain notes and a lack of appreciation for the lower or higher notes, hear all notes alike with the Akoulalion. Why this was so he could not explain.

The Akoulalion is at its maximum efficiency when in the hands of a competent instructor of the deaf, as they understand the individual handling and instruction of the deaf better than almost anyone else, as it is their business. But the Akoulalion can be used in the private home for the instruction of children during vacation, on lines mapped out by competent teachers.

The second classification consists of those extremely hard of hearing. A person who has been very deaf for quite a while has forgotten how to eliminate the sounds that he does not wish to hear. For instance, when using the Akouphone, which magnifies the sounds tremendously, if three or four people are talking in close proximity to the one who is addressing the deaf person, the latter hears a general confusion of sounds, and he is unable to eliminate the sound of the other persons and to concentrate his attention upon what the party who is speaking to him says. Hence, for this class of cases, the type C instrument is designed, which enables the person who is deaf to hear *only* that which the person he is addressing says. It is also possible for there to be two or more persons, each with a receiving instrument, into which each member of the company present speaks into, and the deaf person can not only hear what each person says to him, but he can likewise hear the remarks of one of the persons to the other. The instrument gives a perfectly clear enunciation, and it is a pleasure not only for the person who is speaking to be able to talk in a very low tone of voice and have everything distinctly heard by the deaf person, but it is likewise a pleasure for the deaf person to be able to again enter conversation.

The little receiving instruments are made of aluminum, are always clean and sanitary, and do not contain obnoxious odors. Furthermore, the lower the person speaks, the louder the Akouphone delivers the sound to the deaf person. If the receiving instrument is shouted into the excess of sound is entirely cut off, so that the deaf person is not inconvenienced in the least by having to ask the person to speak in a lower tone of voice, and no detrimental effect is possible to the ear. There is a little black flexible cord running to each one of the receiving instruments. The deaf person has a small ear piece about the size of a watch, which is either held to the ear in the palm of the hand, mounted upon a handle, or by a headband which holds it in place without manual labor on the part of the deaf person. The ear piece can be regulated to suit the case of deafness and intensity of sound, and it is as necessary as it is to focus a field or opera glass to correspond to the eyesight and distance of the object. A small dry pocket storage battery supplies the necessary electricity to operate the instrument, and this can be readily recharged by the aid of the outfit furnished, without inconvenience or knowledge of electricity on the part of the user thereof.

After the deaf person has been using this style of instrument for some time a normal condition is developed, in that the hearing is accustomed to receiving sound which is applied to the outside. The use of any aural instrument which protrudes into the ear, is not only a menace to the healthy condition of the ear, but likewise cultivates what might be termed "near-of-hearing." The same as would be the case if a person would habituate himself to holding a book two or three inches from the eye when reading. He would become near-sighted. So the ear having the sounds projected upon the auditory apparatus by a tube extending into the ear becomes so accustomed to hearing sound delivered in this manner that it is in many cases difficult for them to understand at first with the Akouphone. The ear has to again become accustomed to hearing sound applied to the outside. In many cases this is the ultimate point that can be reached, but there is a tendency in many more cases for the hearing to be gradually developed to the extent of the patient being able to use an instrument which picks up surrounding sounds within a reasonable range, and transmits them to the ear of the person. Then, again, the person has to learn to eliminate not only the echo in the room or hall, or bad acoustic properties, but also the sound of voices he does not wish to hear. In other words, turn the sound into an intelligent state of affairs. An analogous case is that of a telegraph operator, who is able to stand anywhere within hearing distance of a telegraph instrument, and in spite of the loud ticking of the instruments even closer to him than that which he wishes to read, is able to eliminate the sound of those other instruments and hear only what the instrument he is listening to says. But, if he leaves the telegraph office for a number of years and returns again, he is not able to do this at first. Not only that, but is unable to follow any one instrument perfectly, for the reason that he has forgotten how to concentrate his attention on any one particular instrument. But after he has been in that office for some weeks he can again accomplish the same results with ease as before. So it is with a deaf person. After having practiced listening to one voice at a time, he is able eventually to hear many voices, and to eliminate from the chaos of sound all except that which he wishes to hear. Hence, it is but natural that many persons who expect to immediately hear with the Akouphone sounds which they once heard when having normal ears, are disappointed. With perseverance on their part they will accomplish what they desire.

It has been asked what kind of patients the Akou-

phone and Akoulalion are practical with as an aid in hearing. Children under seven years of age, persons having paralyzed nerves, persons of hysterical temperament, and people of extreme age. In the first place the child is unable to understand what he is expected to do, and hence a satisfactory test cannot be made. In the second, it is already explained. The nerve is as totally useless as a paralyzed arm, and hence it is not sufficient to hear with. Hysterical people who have been deaf very long have to become accustomed to hearing, and this hysterical condition has possibly been brought on by the inability to hear and the long strain under which they are laboring in trying to hear. They are very unsatisfactory patients, as they are somewhat analogous to the young child. They imagine they hear when they do not, and *vice versa*. But a large proportion of these cases can be handled if sufficient time is taken to accustom them to the use of the device. For this class there is provided a piece having a little button which can be shoved up and down at will, and which constantly cuts down the intensity of the instrument to any desired extent, so that the shock of sound to one of nervous temperament is minimized. With this regulator at its lowest point of intensity, the sound is about one-half of the normal intensity as delivered to the normal ears.

It is a matter of fact that the ear, being used more than any other part of the body, except the heart and lungs, being of more delicate construction as regards durability than the latter, and being more influenced by the colds which a person of extreme age is constantly catching, is the first part of the organism to wear out. During sleep the eye is rested, and the whole of the body is more or less in a state of repose, except the ear, which is the watch-dog. For instance, in the event of a slight sound, many persons are awakened. So with persons of extreme age, he was inclined to believe, the parts of the ear became slightly atrophied, and are slow to respond to articulate vibrations.

Briefly stated, the Akouphone is a portable instrument which a large per cent. of the deaf can carry around with them, hear ordinary conversation, attend the theatre or opera, etc., and again enjoy those blessings from which they have been ostracized. This is not accomplished immediately, but the continued use of the instrument will tend to produce this effect. There is an instrument to be used exclusively for the desk of the business man, in which his batteries are being charged when he is not using the instrument; for the dining-room table, so that the host can sit and listen to the general conversation going on around the table; for the library for similar use; and for the opera, theatre, or church there is the "opera-outfit." In fact, it supplies any demand which can be made upon an instrument for the deaf.

Lewin says if pus is present, applications of heat aggravate the pain. If this sign is corroborated it will be an excellent diagnostic indication.

Dr. Louis J. Pons, of Roxbury, Conn., reports two cases of membranous croup cured by means of vapo-cresoline, in connection with the usual remedies. He reports that the vapo-cresolene was an important factor in the treatment of these cases. He also uses it with benefit in whooping-cough. It is a great boon to have a remedy at hand that will quickly ameliorate the distressing symptoms in such cases.

RETROSPECTIVE THERAPEUTICS.

Dr. Winfield Ayres treated sixty-five cases of syphilis* with "Mercurol" at the Bellevue clinic, sixty of which had not had previous treatment. Of these, thirteen did not return after the first or second visit; fourteen did not remain long enough under treatment to give the preparation a fair trial, and thirteen may be described as new patients. Deducting these forty cases, there remain twenty-five cases that have been sufficiently long and regular in their attendance to supply data, from which definite conclusions may be deducted. The detailed histories of these twenty-five cases are included in the paper. In summarizing, the author remarks that, while two months' treatment of syphilis is insufficient to determine absolutely the value of any remedy, the marked improvement shown by many of his cases makes it certain that "Mercurol" is of great value. Its superiority to mercuric chloride in controlling the symptoms of syphilis is proved. Like all internal remedies, it has very little effect upon the initial lesion; still it has hastened the healing slightly. None of the cases required treatment with potassium iodide to control secondary manifestations.

To recapitulate: (1) "Mercurol" causes less disturbance of the gastro-intestinal tract than any other preparation of mercury used internally. (2) It controls skin eruptions and pains much better than any other preparation, while it controls mucous eruptions as well as any other, and has equally as good an effect upon the chancre. (3) It is an advantage that it can be taken in pill form.

Unguentum Crede.—Dr. Max Staller, Surgeon to Mt. Sinai Hospital, Philadelphia, says that his experience with Unguentum Crede during the last two years is limited to twenty-five cases of erysipelas, seven cases of cerebro-spinal meningitis, four cases of bubo, six cases of cellulitis, ten cases of carbuncles, nine mammary abscesses, two cases of puerperal septicemia, and all with gratifying results.

In all cases of erysipelas one-half ounce of Unguentum Crede is more than enough. I always apply the ointment directly over the inflamed area and rub gently for twenty or twenty-five minutes, till the skin becomes dark and the ointment absorbed. The inflamed area is preferable on account of the hyperemia of the skin; absorption is quicker, and it acts locally before it enters the lymphatics. Any case of erysipelas, if seen early, will be cured within three to five days.

In fifty cases of scarlet fever treated with Unguentum Crede no trace of albumin could be found in a single case.

In all cases of a septic character, whether due to visible or invisible injury, where contamination of the blood results, either with formation of an abscess or not, Unguentum Crede will, in all cases, assist in eliminating the poisonous excreta from the blood through the kidneys, and, moreover, will make all toxic substances which pass through the uriniferous tubules harmless, so that it even prevents nephritis.

—The annual report of the University of Pennsylvania announces that the full course of the Arts and Sciences and the Medical Course can be completed in seven years, and that under certain conditions a senior in college can be a freshman in the Medical School.

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* *Philadelphia Med. Jour.*, Nov. 10, 1900.

Taka-Diastase in Certain Forms of Dyspepsia and Gout.—Armstrong (*Liverpool Med.-Chirurg. Jrn., Med. News*) finds, in the hasty eating of meals, the increasing prevalence of early loss of teeth, and especially the custom of taking large quantities of hot tea or coffee to wash down the food, the real cause of much dyspepsia and gout. The food is not thoroughly mixed with saliva, and, since the gastric juices have no effect upon starches, these decompose, give off much gas, and interfere with the digestion of other portions of the food. Relief is not to be sought by cutting off all the starches. Except in grave cases the patient will not submit to so irksome a dietary. The rapid loss of body weight resulting from such a dietary makes the restriction unsuited to a large proportion of the cases. It is essential that the starches be digested by the admixture of proper agents. Malt extract will do this, but, since it also contains sugar, will often do more harm than good in amylaceous dyspepsia and gout. *Taka-diastase expends its powers upon starches without doing any harm.* It never causes the slightest discomfort, loss of appetite, or digestive disturbance. The dose is 3 to 5 grains, given in powder or capsule, with or immediately after meals. As a result of this treatment flatulence and acidity are greatly diminished, and the dyspeptic and gouty symptoms gradually disappear.

Climatology of Neurasthenia.—F. S. Pierce (*Med. News*, June 26, 1900) summarizes his conclusions on this subject as follows: It is almost axiomatic that an altitude of over 2,000 feet is unsuitable for the neurasthenically disposed or convalescent patient. Any very stimulating climate should be avoided. Other conditions to be avoided are as follows: Districts menaced by high winds and frequent fogs; cloudy, saturated atmospheres, with but slight movements of air-currents; low country (sea level), with continuous, non-varying, although moderate, heat, as where the effect of the gulf stream is strongly felt. Thus the Bermuda Islands and Florida are enervating localities.

Ideal conditions for the neurasthenic include sea-air in a well-wooded country, far enough from the coast to avoid its fogs. A sea-voyage is, as a rule, an excellent preliminary to other climatic measures. Provided the voyage is not stormy, it acts both psychically and physically in soothing the nervous system.

In order to obtain the full benefit of correct climatic conditions, the patient must have good food. Without this important adjunct the desirable climatic change may be entirely defeated in its effect.

Orexin Tannate as a Stimulant of Appetite.—Zeltner (quoted in the *Philadelphia Medical Journal*) states that he has employed orexin in more than fifty cases as a stimulant to the appetite. In thirty of these cases the remedy proved highly efficacious. Out of thirteen cases of phthisis excellent results were obtained in ten. In seven cases of uremia there was marked improvement of the appetite in five. The dose of orexin tannate is 5 grains, twice daily, two hours before meals. The tannate had the advantage over preparations of orexin, of not causing any burning sensation in the stomach. The drug appears as a yellow powder, insoluble, tasteless, and odorless.

—The *Virginia Medical Semi-Monthly* recommends that a person when tempted to cough, should draw a long breath and hold it until it warms and soothes every air cell. The benefit will soon be apparent.

RETROSPECTIVE DIETETICS.

Diet in Children.—Professor Ad. Czerny (*Jahrt. F. Kinder*, II., No. 1.; *Post-Graduate*) condemns the recommendation of a diet of milk, eggs and meat to keep and make children, more than two years of age, strong, unless especially indicated by a certain disease, and then only for a time. He admits that such a diet often produces muscular children, but says they are liable to be constipated, the urine is very acid and loaded with sediment; vulvitis in young girls often thus has its origin; the children are pale in color, apathetic, sleepy, are often afflicted with bone affections, eczema, prurigo, and have a tendency to tubercular diseases.

He advocates, therefore, the ordinary mixed diet and would not bar out many of the vegetables which are still believed to be indigestible for children, nor a certain quantity of the sweets which are said to injure children's teeth.

Dangers of Some Uncooked Vegetable Foods.—It appears, from the investigations of the laboratory commissioners, recently undertaken in England as an outcome of the Manchester beer poisoning epidemic (*Lancet*, December 22, 1900), to have been established that plants actually take up arsenic in a soluble condition from the soil, and that such arsenic may easily accumulate in the soil, in dangerous quantities, from the use of manures made by heating bone ash with commercial oil of vitriol. Cabbages and turnips gathered from fields manured with superphosphate of calcium are said to have given unmistakable evidence of the presence of arsenic. The repeated dressing of the fields with this fertilizer may cause the accumulation of the poison in the earth and its absorption in increasingly dangerous quantities by vegetables subsequently used in food. This is a condition undoubtedly deserving of serious consideration and investigation.

Calendula for Boils and Carbuncles.—M. Verneuil, in a recent communication to the French Academy of Medicine, has suggested a very simple treatment, but, he says, superior to all others. Cutting, in his experience, is generally unadvisable, but carbolated or non-alcoholic calendula should be freely used. These applications, says M. Verneuil, with but few exceptions, abort boils and carbuncles. They arrest the progress of the disease in the gravest cases, ordinarily cause the pains to quickly cease, reduce the fever, disinfect the purulent and gangrenous centers, hasten resolution, and promote healthy granulation.

Lemon Juice as a Germicide.—It may not be generally known, says *Health*, that fruit acids are germicidal, but the information is of special value. The juice of limes and lemons is as deadly to cholera germs as corrosive sublimate, or sulphur fumes, or formaldehyde, or any other disinfectant. It is so powerful a germicide that if the juice of one lime or lemon be squeezed into a glass of water that is then left standing ten or fifteen minutes the water will be disinfected. It makes little difference where the water has been obtained, or whether it has been boiled or filtered. This is a fact worth knowing.

—A certain hospital reports a series of post-operative suppurations, the cause of which was finally traced to the fact that the house surgeon was suffering from seborrhea. In such cases it is stated that dipping the hands for 15 seconds in chirol forms a protective covering through which sweat or germs cannot pass.

Dietetic Treatment of Dilatation of the Stomach.—Albu, in the *Deutsche med. Wochenschrift*, considers fluid diet indicated in cases of dilatation of the stomach, instead of the dry diet usually imposed, as the anatomical affection should not be taken into account as much as the disturbance in the physiological function. The ingestion of non-nutritious fluids, watery soups, etc., must be strictly forbidden. Milk should be given freely, rendered appetizing in every possible way. Meat should be finely chopped or given in jellies. Toast is not necessary; all bread, etc., is best given dipped in milk. Beef, pork and all fats should be avoided, except a small amount of pure butter, not over 30 grams a day. The meals should be as limited as possible, and follow each other closely, just avoiding interference with the last. The diet outlined is a cup of milk and two rolls at 8; at 9, a cup of cream; at 10, two soft eggs; at 11, a cup of cocoa with milk; at 12, a saucer of cereal food; at 1, one-quarter pound of sweetbreads and three tablespoonfuls of spinach; at 3, a cup of milk; at 4, a cup of chocolate and a zwieback; at 5, a cup of cream; at 6, a saucer of oatmeal food with egg and plasmon, or four tablespoonfuls of minced meat; at 7, soup with egg and a roll; at 8, a cup of milk, and another at 9. After lavage of the stomach, morning and evening, he administers, through the sound, a mixture of plasmon, condensed milk, etc., each representing a fuel value of 100 calories. After each meal the stomach is massaged, which strengthens the musculature and stimulates peristaltic movements. If there is great debility the patients stay in bed. Albu's experience includes fifty observations. In many cases of extreme stenosis the subjects increased in weight, and operation could be postponed indefinitely.

The Dynamic Value of Carbohydrates.—According to the *Georgia Journal of Medicine and Surgery* (*Diet. and Hyg. Gaz.*), Abel summarizes the value of carbohydrates for muscular work as follows:

1. When the organism is adapted to the digestion of starch, and there is sufficient time for its utilization, sugar has no advantage over starch as a food for muscular work except as a preventive of fatigue.

2. In small quantities, and in not too concentrated a form, sugar will take the place, practically speaking, weight for weight, of starch as a food for muscular work, barring the difference in energy and in time required to digest them, sugar having here the advantage.

3. It furnishes the needed carbohydrate material to organisms that have as yet little or no power to digest starch. Thus milk sugar is part of the natural food of the infant.

4. In times of great exertion or exhausting labor, the rapidity with which it is assimilated gives it certain advantages over starch.

Osteopathic Cure for Consumption.—Dr. William West, a young osteopath of Centreville, Ia., claims to have discovered a new method of curing tuberculosis. He says he has tested it on ten patients, all of whom have recovered. The essence of the treatment consists in vibration of the spleen, releasing the phagocytes that prey on the bacteria. Osteopathic treatment, to strengthen the alimentary canal and lungs, is also used, and patients are put on special diet and kept in good air and light.

Petroleum in the Treatment of Disease.—W. D. Robinson, in the *Medical News* of July 14, 1900, says that the ordinary literature in relation to the treatment of consumption by the use of petroleum oils shows that these are not absorbed by the intestinal tract, and that all that is ingested may be recovered in the discharges from the bowels. From this it is argued that they are devoid of therapeutic power, excepting in so far as they act as a lubricant for the intestines, and thus make their movements easy. This, however, does not accord with his experience, as in fifty selected cases of phthisis, in which the body weight was much reduced, the patients without change of climate, and those who had not been given other treatment, showed in every instance an improvement in health, strength, and a feeling of well-being. The gain in weight was between five and a quarter and twenty-three and a half pounds. The remedy gave no discomfort in any instance. The author considers that its effects are due to the changes which are produced in the intestinal tract, and that it acts mechanically by inhibiting the growth of micro-organisms, and coats the intestines with a non-irritating substance. Petroleum oil is an admirable vehicle for the administration of salicylic acid, beta-naphthol, thymol, camphor and iodoform.

Mark Twain's remarks before a legislative committee shows what a fool a man may make of himself, when he attempts to talk upon a subject he knows nothing about. Perhaps, as Dr. Van Fleet remarked, anything Mark Twain might say would never be taken seriously, and, so far as we can judge, it was not. The challenge of Dr. Robert T. Morris, in respect to osteopathic treatment of the spinal vertebræ, was not accepted, and his criticism of the treatment of paronychia, as quoted from their text-book, showed absolute ignorance of correct anatomical knowledge.

Dr. E. Franklin Smith has been elected Chairman of the Section on General Medicine in the Academy of Medicine.

Dr. Dudgeon, who died recently in Pekin, was perhaps the best known of all the Europeans in China, with the exception of Sir Robert Hart. Dr. Dudgeon went out early in the sixties to take charge of the British Legation Hospital, and the walls of the hospital were adorned with tablets testifying to his surgical skill. For twenty years the doctor was daily at his post, receiving all sorts and conditions of Chinamen, and at times his patients numbered 100 a day. He had the confidence of the best Chinese statesmen and knew all about the inner working of the strange celestial machine.

The State Health Board being no more, we are to have a Commissioner of Health, and Dr. Daniel Lewis, of this city, has been appointed to this office. A more suitable choice could not have been made in any respect. Much better work may be expected of a single commissioner than from the old unwieldy board. We congratulate both Dr. Lewis and the commonwealth upon this appointment.

Thyroid extract is said to be of service in mammary cancer.

An old Scotch physician, says Sir Astley Cooper, for whom I had great respect and whom I frequently met in consultation, used to say to me as we were about to enter our patient's room together, "Weel, Meester Cooper, we ha' only twa things to keep in meend, and they'll serve us here and herea'ter; one is auways to ha' the fear o' the Laird before our e'es, that 'll do for herea'ter, and t' other is to keep our boo'els auways open, and that'll do for here."

MISCELLANY.

—Aloes applied to an ulcer or denuded spot will as effectually and as promptly prove cathartic as when administered in the usual way in pill.

—An entire family of nine persons died July 9, near Calico Rock, Marion county, Arkansas, from eating toadstools, mistaking them for mushrooms.

—The French Minister of War, De Gallifet, has summarily and absolutely prohibited the sale of alcoholic liquors of any kind in all the military canteens.

—Dr. O'Connell, of the British Army, calls attention to the usefulness of the despised or hated spider as a protector of mankind against the disease-bearing mosquito.

—A gentleman who has taken every precaution to keep his gift a secret, at least for the present (*Jour. A. M. A.*), has placed to the credit of the Presbyterian Hospital in this city the sum of $200,000.

—The authorities have donated a tract of land near Moscow for the erection of a home for aged and indigent medical women. A society organized for the purpose is collecting funds to build and maintain it.

—On May 14 the Woman's Medical College of Baltimore graduated Esther Pak Kim, of Seoul, Korea. She is the first medical graduate in America from her native country. She will become a missionary in Korea.

—One of the features of the Exposition of Hygiene at Naples was a reproduction of the heating, lighting and water-supply arrangements of a Pompeian house. Naples now boasts of the finest water supply in the world.

—Dr. Woods Hutchinson, in his book, "The Gospel According to Darwin," says: "Neither the emancipated woman at one end of the scale, nor the prostitute at the other, propagates her kind, and society has reason to be thankful in both cases."

—Dr. Gallus, Ritter von Hochberg, of Carlsbad, is probably the oldest practising physician in the world. He is 97 years of age, looks after the poor of the town and goes to the theater regularly. He is an Austrian imperial court councillor.

—Dr. Phicque proposed at the Congress of Hygiene in Paris to establish an additional tax of a penny upon alcohol for the benefit of the tuberculous. The tax is fully justifiable, Dr. Phicque thinks, on the ground that alcoholism is the principal cause of consumption.

—A colored woman threw the odds and ends of medicine left after her husband's death into the fire. The explosion that followed carried the stove through one of the windows. "Mos' pow'ful movin' medsin I eveh saw'd," said she. "No wondah the ole man gone died."

—The prize of $1,000, established at the twelfth International Medical Congress at Moscow in 1897, for medical work of the greatest benefit to humanity, was awarded, at the late Paris Congress, to Professor Ramon y Cajal, for his researches on the minute structure of the nervous system.

—The attention of English-speaking visitors to the Milan cathedral is readily attracted by the following notice, which appears over an almsbox: "Appele to charitables. The Brothers, so-calied, of Mercy, ask slender arms for the hospital. They harbor all kinds of diseases, and have no respect to religion."

—Scotch collies are trained for ambulance and bearer work in the German army. Their saddle bears a red cross, a flask and first-aid dressings. It is claimed that these red-cross canines will scent wounded men who under ordinary circumstances must be overlooked by litter-bearers and left on the battlefield to die.

—According to Dr. T. C. Miner, the whole Spanish-American war, to date, has not caused as many deaths from gunshot wounds and diseases, as have resulted in the same time from railroad accidents alone. It is safer to be a soldier under continuous fire, in any kind of clime, rather than a private corporation employee.

—Phimosis and balano-posthitis occasionally occur in adults in whom no venereal disease is at fault. In these cases (*Intern. Jour. of Surgery*) it is well to examine the urine before operating, for diabetes may be the cause, and in the latter case it is not always safe to operate. Diabetic gangrene of the penis has also been mistaken for phagedenic chancre.

—The biggest living man is Lewis Wilkins, who is now arousing great interest in the scientific circles of Europe. Wilkins was born on a farm near St. Paul, Minn., in 1874. When but ten years old he measured six feet in height and now has grown to the tremendous height of 107¼ inches—just three-quarters of an inch less than nine feet—and weighs 364 pounds.

—As a topical application to prevent mosquitoes from biting, nothing equals kerosene, the *Charlotte Medical Journal* thinks. Suspending a small flannel rag, wet with kerosene, at the open window or door, will keep them out of the room. Rub some over the hands and arms, and lightly through the hair, and it will compel a roomful of mosquitoes to stand back.

—It is a fortunate fact that the proportion of pulmonary invalids who cannot with impunity resume work after a few months of open air treatment is small. This has been shown very clearly in the experiences of a colossal German health insurance company, the Hanseatic, which finds it to its advantage to maintain a number of rural sanitaria, some of them at great expense.

—It is reported (*Philadelphia Med. Jour.*) that the authorities of the Manhattan Asylum, Ward's Island, are now making systematic experiments with the music cure, and have thus far treated a dozen or more patients afflicted with melancholia, giving them concerts an hour long each afternoon with the harp, violin and piano for instruments. They report after a month's trial that improvement is shown, and that patients suffering from acute mania and hallucinations show more mental alertness and cheerfulness, and that one patient has been assisted almost to recovery by the strains of the violin alone.

ORIGINAL ARTICLES.

ACUTE ENDOCARDITIS: BENIGN AND MALIGNANT, WITH ILLUSTRATIVE CASES.

BY THOMAS E. SATTERTHWAITE, M.D., NEW YORK CITY.

FOR convenience sake acute endocarditis may be said to have two prominent types, the benign or non-suppurative, and the malignant or suppurative. The latter variety has also been distinguished as the mycotic, infective, etc., but as both contain micro-organisms in the endocardial deposits, and are associated withh systemic infections, these terms are inappropriate. In this connection I may add that the word ulcerative as applied to endocarditis has no distinct value, because all forms tend to produce ulceration.

The acute benign form is by far the most frequent. In an analysis of forty-eight cases of endocarditis, verified by *post-mortem*, some years ago,* I found that it was rarely produced by an injury, but usually resulted from systemic poisoning, such as rheumatism, scarlatina, measles, etc., though in about half my cases I did not discover the cause. In the light of our present knowledge, however, we may attribute it to a large number of minor ailments, including gastro-intestinal affections, tonsillitis, etc., which are now know to immediately precede the attack. I saw such an instance during the present year at the Orthopedic Hospital, with Dr. Hibbs, in an otherwise healthy boy of seven, who entered the hospital to be operated on for congenital dislocation of the hip. After the operation, from which there was no reaction, he developed an obstinate diarrhea, in the course of which there was a sharp attack of endocarditis. I am inclined to think that various systemic poisons, many of them still unknown to us, produce the disease. But it is an incident of systemic affections, rather than a separate entity. In most cases endocarditis selects those portions of the endocardium that are at or about the valves. The first gross evidences of disease consist in the formation of minute reddish excrescences, near the free valve margins. In the mitral leaflets they are on the auricular surfaces, in the aortic leaflets on the ventricular surfaces.

After these soft excrescences appear they are soon covered with layers of fibrin, hence the term diphtheritic. Two processes are now possible, either a healing, with thickening and puckering of the leaflets, or a degeneration that leaves broken surfaces or ulcers. And yet, while this degenerative process goes on, there is about it a regenerative process, by which Nature attempts to heal the part and restore its function. At all times micro-organisms, in greater or less number, are found in the fibrin or granular débris of the ulcerative surfaces. This degenerating matter, or the fibrin attached to it, produces infarcts in various parts of the body.

The left side of the heart is most frequently attacked in extra-uterine life, the right in congenital disease. In my collection of forty-eight cases I found the aortic somewhat more frequently diseased than the mitral; in twenty-six cases both aortic and mitral were affected; the tricuspid was never the only valve disease, and in only four cases, always in association with two other valves; the pulmonary was only affected three times, and also in association with two other valves. My later statistics, also based on *post-mortems*, indicate that there is not much difference between the incidence on the mitral and aortic valves; but this is not the general belief.

* *N. Y. Medical Record*, Feb. 27, 1886.

Patients seldom suffer much from the simpler forms of endocarditis in their early stages. They often complain of some precordial pain, though even these symptoms may be due to an associated pericarditis, the irregular action of a hypertrophied heart, or pulmonary complications. In a large number of cases there is a noteworthy frequency of the pulse (a rate of 120 to 140 is not uncommon at first). Dyspnea, orthopnea, and palpitation also are of pretty regular occurrence. But it is the accidents and complications that are most dangerous to life. In a disease that in nine out of ten cases lasts for years (sometimes twenty and thirty, and even more), it is natural that these accidents should occur at times; and we find them in the shape of infarcts in the kidneys, lungs, spleen or brain, etc., in one-third of the patients.

So that the danger increases as the disease becomes chronic. For in the great majority of cases patients survive the acute stage, though embolism may occur even at that time.

Often the acute or benign form eludes observation. However, we should be on the lookout for it in acute rheumatism, and especially when the temperature rises to 100° or 102° F., and also in pneumonia and scarlet fever. It is less frequent in typhoid, erysipelas, bronchitis, and gastro-intestinal affections.

The diagnosis is beset with some difficulties, or otherwise it would be recognized more frequently. The signs include palpitation, dyspnea, precordial pain, insomnia, often rapid and irregular pulse, headache, anxiety. In the first attack there may be no enlargement of the heart and, therefore, no dislocation of the apex. In adults we have to deal most often with acute exacerabations of the chronic maladies or the recrudescence of a latent endocarditis.

In the majority of cases the disease is either in the mitral or aortic. Most authors agree (though in this respect my tables do not correspond) that the mitral is most often affected.

In Sperling's tables of 300 *post-mortems* he made the incidence on the valves is as follows:

Mitral valve	255
Aortic valve	129
Tricuspid valve	29
Pulmonary valve	3

And in 200 of his cases, where only one valve was affected, the incidence was as follows:

Mitral valve	157
Aortic valve	40
Tricuspid valve	3
Pulmonary valve	0

One of the main difficulties encountered in making a diagnosis is that the acute attack is apt to be engrafted on a chronic one, or at least a latent condition; or, the lesion may be masked by a pericarditis. In one of my cases the endocarditis escaped notice, because a syphilitic phthisis was the paramount lesion. In acute endocarditis the first requisite is rest, and rest in bed. As far as possible we should avoid drugging. And stimulation by alcoholics may also be harmful. But the diet should be carefully regulated. Starchy and saccharine food should be prohibited. For children, milk is the best food, and it is also good for adults if it agrees with them. It may be diluted with one-third to one-half lime-water in children; with Seltzer or Vichy in adults. The patient should also be kept in a quiet room, and free from all annoyances. As soon as practicable, efforts should be made to combat the systemic disorder. If it

is rheumatism, the salicylates should be given with caution, in 5 to 10 gram doses, every two to four hours, with an alcoholic or diffusible stimulant; but not in sufficient quantity to produce vertigo, ringing in the ears, or constitutional symptoms. A little palpitation may be let alone. If, however, the heart acts tumultuously, a cold compress may be put to the precordial region, and bromides, such as the bromide of sodium or monobromate of camphor given. The latter is an excellent remedy, in 2 grain doses. Two or 3 grains if Dover powder, every two hours, is excellent. Aconite, in 1 minim doses, is soothing, every two hours, if there is fever.

Phenacetine may be given to adults, in 3 to 5-grain doses, with a stimulant, at bedtime, if its effects can be watched.

Digitalis and strophanthus should not be given, or if at all, with great caution. They are dangerous remedies in these cases. In intense arythmnia strophanthus may, however, be tried cautiously, because it is soothing, but it is apt to be unreliable and, like digitalis, it should only be given in emergencies, and for a very short time. The milder remedies should be tried first.

Case I. Acute Benign Aortic Endocarditis Engrafted on the Chronic Form.—E. B., twenty-two, colored, was admitted to hospital December 11, 1880. Three weeks previously he had been taken with precordial distress, palpitation and dyspnea, slight cough with white sputum, orthopnea; at times nausea and vomiting.

On physical examination the heart was found hypertrophied, with apex to left of nipple. Wavy movement of the epigastrium. Expiration prolonged, and high-pitched behind. Murmur at apex with first sound. Pulsation of jugulars. The murmur, supposed to be mitral regurgitant, was carried to the left, but was better heard above the scapula than below it. The patient died of pneumonia. At the autopsy an abnormal amount of fluid was found in the pericardium, and some in the pleural cavities. Both lungs were solidified at their bases, and pigmented. Nutmeg liver. Kidneys and spleen congested. The heart was hypertrophied. Pulmonary opening dilated. Right heart dilated. Mitral valve normal, but aortic valve the seat of fresh vegetations, and posterior cusps thickened and inflamed.

This case was an acute benign aortic endocarditis in a hypertrophied heart. The murmur at the apex, supposed to occur with the first sound, heard best behind and over the scapula, proved to be one of those exceptional cases where the murmur of aortic regurgitation is conveyed to the apex from the aortic. And it opens the question whether the regurgitant murmur was conveyed to the apex by the twisting of the stream at the aortic valve, by the sternum, or the solidified lung or the heart walls. It also illustrates the importance, in these doubtful cases, of noting that in the aortic regurgitant the murmur may be conveyed above the scapula, while in the mitral regurgitant it may be carried below the scapula. And further, that sometimes the second sound is sometimes mistaken for the first. The pulmonary, though dilated, appears to have been sufficient.

Case II. Acute Benign Mitral Stenosis; Pericarditis.—C. W., twenty-one, single, was admitted to hospital January 25, 1884. He believed himself in good health up to five weeks before admission, when he had an attack of acute articular rheumatism.

On physical examination a systolic murmur was heard at the apex. Liver enlarged; albumin and casts in the urine; edema of the legs. These symptoms improved, but at the end of four weeks there was an increased edema, which reached to his scrotum. About this time a "purring thrill" was noticed at the apex and a double murmur at both apex and base. The patient died a few days later, in coma. At the autopsy the pericardial sac was found to contain a large amount of serous fluid, with fibrin in flakes. Both visceral and parietal layers of the pericardium were covered with a fibro-plastic material. On the mitral valves were villous granulations sufficient to produce obstruction. The other valves were normal. Lungs congested and edematous.

This case illustrates how an associated pericarditis may obscure an endocarditis, though the "purring thrill" pointed to mitral stenosis.

Septic or suppurative endocarditis is a comparatively rare disease. In the forty-eight cases already mentioned I found it in only three, or about 6 per cent. And from a review of my cases to date I think it is even less common than these figures would imply. In fact, it is an unusual form of pyemia. The lesions in the valves may be vegetative or ulcerative, but always suppurative, so that the emboli are necessarily septic, eventually producing metastatic abscesses.

So rare is the disease that it often escapes notice, but there are certain signs that should attract our attention. These are those of embolism and metastatic abscesses, in conjunction with the other subjective or objective phenomena of endocarditis and sepsis.

If, in a case of puerperal fever, pneumonia, suppuration from bones or joints, gonorrhea, or any form of septicemia or traumatism, there develop signs of endocarditis, we should suspect that it is the septic or suppurative form, especially if there are chills and fever, even if periodic with an enlarged and tender spleen; bloody urine, with albumin and casts; or retinal hemorrhage. If there is a suspicion that the disease is due to gonorrhea, a culture of the blood may reveal colonies of the gonococcus.

However, in a case of gonorrheal endocarditis, reported by Stein (*Wien. Klin. Woch.*, Nov. 22, 1900) Weichselbaum found streptococci, the inference being that the gonococci simply made the soil favorable for other bacteria, and that this case was a usual one of mixed infection. I am inclined to think that there are several micro-organisms concerned in the production of endocarditis.

The diagnosis is manifestly difficult, and yet is not impossible if all the phenomena are taken into consideration. The signs include precordial pain, dyspnea, headache, insomnia, irregular chills, and sweats and fever, anxiety, rapid and irregular pulse, the physical signs of endocarditis, with septic or pyemic manifestations; in short, the signs of endocarditis, with a tendency to metastatic abscesses. Inasmuch, however, as in most cases the acute form of the disease is engrafted in an old one, we should also inquire as to whether there have been previous signs of endocarditis. And, therefore, we should expect to find some dilatation of the heart, with a dislocation of the apex outwards or downwards, or both. The organic murmurs of septic endocarditis are, so far as my experience goes, confined to the aortic and mitral valves.

The disease is to be differentiated from malaria, typhoid fever and tuberculosis. It is usually fatal in a few days, but cases have been reported where it has lasted for months. Recoveries must be very rare. In my opinion most cures that have been reported are cases where there has been embolism, with chills and sweats, but the emboli have been benign. Personally I have never known a case of recovery in malignant endocarditis. However, I have known recovery to follow gon-

orrheal rheumatism with metastatic deposits, and I have also seen on recovery pure pyemia. Septic endocarditis should not, therefore, be altogether hopeless.

The following cases are so interesting that they merit separate mention:

Case I.—J. A. C., colored, aged forty-six; was admitted to hospital November 5, 1878. He was first taken sick on October 25th, but had never before been seriously ill. At first he had pain in the left knee, and about the same time there were chilly sensations, followed by headache, fever and backache. He took to his bed, and remained there until removed to hospital. On admission there was found to be pain in the left side of his back (spleen?), and in his left leg. His wrist also was swollen, tender and intensely painful. No fever, but great prostration. On November 28th, after showing no signs of improvement, he passed blood per rectum. Probably there had been an evening rise of temperature for some time. It remained between 101° and 102° until December 3d. Towards the last it rose to 104°, pulse to 116 and respiration to 46. At the *post-mortem* examination there was no cardiac hypertophy, but at the aortic orifice, beneath one of the cusps, was a verrucose growth, the size of a small chestnut, while the valve was ruptured. On removing the brain, collections of pus were found in the meshes of the pia mater. At the wrist (left?) the first row of carpal bones was found necrotic or carious. Duration of the disease, six weeks. In this case the evidence pointed to necrosis, or caries, of the carpal bones as the source of the acute endocarditis, though the evidence so connecting it is not as satisfactory as one might wish, because no special attention was directed to the endocarditis at the time.

Case II.—The history of this case, with the *post-mortem*, was sent me by Dr. Dorning, while an interne of St. Francis Hospital. A patient of alcoholic habits, aged forty-one, was admitted in November of 1882, with a lobar pneumonia. There was high temperature, but no cardiac murmurs were detected. Other and apparently more important conditions obscured the cardiac disease. At *post-mortem* examination the aortic cusps were found extensively diseased, each segment exhibiting vegetations, while one carried a growth the size of a hickory-nut, and was ruptured and ulcerated. An abscess was also found in the course of the coronary artery, and a sinus led from it to the fungating mass in the aortic valve. The spleen containing an infarct. Duration of the illness, about five weeks. The malignant endocarditis was probably due to a pneumonia of septic character.

Case III.—A gentleman of this city was taken sick with an attack of fever that confined him to his room for four or five days. He then felt better, and went downstairs, but soon returned, and took to his bed. During the first two weeks of his attack the temperature ranged from 98° to 100° F., his pulse, from 140 to 150, sometimes reaching 160. During the last two weeks of his life it had a wider range (120 to 150). At an early period the diagnosis of obstructive endocarditis was made out. The respiration was never embarrassed, except when the patient sat up. There was never any impairment of motion or sensibility, nor did he experience any pain, except on one occasion, when his physician attempted to turn him over on his left side. He then cried out suddenly, "You have killed me," and placed his hand over the region of the spleen, groaning with pain. He recovered from this attack. The patient died with suppression.

Post-mortem examination revealed a stenosis of the aorta, which would hardly admit the passage of the first joint of my little finger. The surfaces of the cusps were marked by calcareous concretions and vegetations. The heart, and especially the left ventricle, was hypertrophied and dilated. The kidneys presented the usual appearances seen in the large variety of chronic diffuse nephritis and contained both recent and old infarcts. The lungs also had infarcts. But the spleen and the meninges showed the most important lesions. The first-mentioned organ measured about nine inches in length, and was the seat of numerous infarcts, and of various ages, some of them red, others brown, others yellow, while one had been the point of origin for an abscess from which a pint to a pint and a half of dirty, grumous, offensive matter was discharged.

Emboli were also found in the meshes of the pia, with attendant suppuration. This acute attack was plainly engrafted on an old rheumatic endocarditis, but why the emboli were suppurative was not determined. Undoubtedly there had been a suppurating focus, which was neither discovered during life nor at the *post-mortem* examination.

Case IV.—R., fifty-six, single, was admitted to hospital May 21, 1881. Patient had been a well man up to four weeks before admission. At this time he was attacked with pain in all his joints, which were swollen and disabled. For the past three weeks he had suffered from headache, epigastric distress and nausea, without vomiting, and during this time had irregular chills and sweats. During the eight days previous to admission he had increasing dyspnea, but without cough.

Physical examination showed that the apex was in the fifth space, one-half inch to the left of nipple. A double mitral murmur was head. Pulse very irregular. Fine, moist râles at the base of both lungs. Later a presystolic murmur was heard twice at apex, but no double murmur. Later a double murmur was heard at the base. Orthopnea. On May 31st signs of hypostatic congestion were recognized, and a diagnosis of probable ulcerative (malignant) endocarditis was made. The patient died suddenly the same day, falling over dead.

At the autopsy which, unfortunately, was not very complete, it was found that the pericardium contained one-half ounce of bloody serum, while the right auricle was attached posteriorly. There was a large vegetation on the aortic valve, and an ulcer extended beneath the valves, from the aortic to the mitral valves. The spleen was irregularly spotted and puckered from old infarctions, but no recent ones were found.

Here, then, was an instance of an old benign endocarditis, which appears to have taken on a malignant character.

The hospital cases referred to were patients in St. Luke's, the Presbyterian and St. Francis Hospitals.

Human Tears a Remedy.—A physician who has recently returned from Persia, says that the natives still believe that human tears are a remedy for certain chronic diseases. At every funeral the bottling of mourners' tears is one of the chief features of the ceremony. Each of the mourners is presented with a sponge to mop off the face and eyes, and after the buril these sponges are presented to the priest, who squeezes the tears into bottles, which he keeps. This custom is one of the oldest known in the East, and has probably been practised by the Persians for thousands of years. Mention is made of it in the Old Testament. The physician did not state just what diseases are supposed to be cured by these gathered tears, nor how they are to be applied as a remedy; but it is a curious fact that this old custom of ages past still prevails in certain parts of Persia to-day.—*Rev. Pract.*

A CLINICAL LECTURE DELIVERED AT THE NEW YORK POST-GRADUATE MEDICAL SCHOOL AND HOSPITAL, APRIL 1, 1901.

BY HENRY DWIGHT CHAPIN, M.D.

Professor of Diseases of Children.

Case I. Vaginitis.—This is the case of vaginitis that I showed you two weeks ago. I found the gonococcus present. An injection of 2 per cent. protargol was used several times a day. The mother says the discharge stopped, but has now re-commenced. The child does not cry nor complain of pain. She did not complain of pain in passing water. We could not make a diagnosis of this case without a bacteriological test.

There are several distinctions given in the books between specific and non-specific vaginitis in children. The specific variety is accompanied by much more injection and reddening of the mucous membrane. The site of infection is rather anterior, around the urethra. The pus is of a greenish tint, and there is much more of it. There is apt to be complaint of pain on urination. These symptoms frequently do not coincide with the non-specific vaginitis; in the latter there is not much reddening nor injection, the muco-pus is of a light hue, somewhat like leucorrheal discharge of older subjects and the inflammation is confined generally to the vulva. Unfortunately, as we see these cases in actual practice we cannot always make these fine distinctions.

There is one thing to which I would like to call your attention, and that is, unless it is a specific vaginitis it is best not to use injections, because, I think you may thus carry infection into the upper part of the vagina by the washes or douches. It is also difficult to give a douche to a very young child, so that where it is a non-specific vaginitis I confine myself to cleanliness and generally to a dry dressing. I direct the mother to wash the vulva with warm water several times a day and then use subnitrate of bismuth, boracic acid, or what is a very good combination, stearate of zinc and boracic acid. If the gonococcus is found that is generally not sufficient, as in this little girl. Then you can take a soft rubber catheter, pass it into the vagina for perhaps one-half inch and use your injection. I have tried a great many things, but I find a 2 per cent. protargol does very well in these cases. We must build up the constitution, particularly in the non-specific variety; we may have to give iron, cod liver oil and regulate the diet very carefully before we get a cure. The specific variety is undoubtedly contracted through one or both parents by means of unclean cloths which are left lying around the room, and perhaps in the bed. You will find in this clinic, in the babies' wards, that we often have to treat cases of vaginitis that are specific. The gonococcus has been found. I attribute this to the fact that the parents are often infected and allow their rags to lie around until the child becomes infected.

Case II. Congenital Syphilis.—This child, twelve weeks old, was covered with papillary eruptions over the face and around the anus and vagina. There were small fissures around the mouth. The child was unable to nurse, but is now picking up; the eruption has disappeared entirely. The treatment in this case was small doses ($^1/_{10}$ of a grain) of calomel continued for three days and discontinued for three days. In order to get a quick effect in syphilis you will often do better with calomel than any other mercurial. I do not think it is a good form of remedy to continue indefinitely. I would much rather use bichloride in small doses, say $^1/_{50}$ to $^1/_{100}$ grain.

The face is very typical of congenital syphilis. We have almost invariably a flattening of the bridge of the nose so that there appears to be quite a distance between the eyes, and the lower part of the nose seems to project more markedly than in other cases. That also is due to the fact that almost invariably there is a swelling of the nasal membrane; as a result the air does not get into the nostril well and the atmospheric pressure pushes down the bridge of the nose and produces this lesion.

Whenever a syphilitic baby is on its mother's breast the chances of its recovery are much better. Remember Colles' law that a syphilitic infant cannot infect its mother, even though the mother has had no evidence of syphilis at all. The same infant would infect a wet nurse very quickly. It would look as if the mother may carry a syphilitic infant but not herself have the disease in active form. The earlier we get manifestations of congenital syphilis after birth the severer the type of the disease, so much so that if a baby at birth shows distinct lesions of syphilis it will probably be fatal. At six weeks or two months its chances are fair; at five or six months the chances are better. The palms of the hands and soles of the feet are to be carefully inspected, as we get a peculiar scaling in syphilitic babies. In severe cases we get pemphigus and when you see this the case is apt to be fatal. There is almost nothing that will produce that peculiar scaling of the soles of the feet but syphilis, and you will get the same thing in the palms of the hands. Of course, this is not pemphigus. If we had blebs there, we would give a much worse prognosis. When the baby opens its mouth notice the peculiar high palate arch, the gothic arch that is generally always present in syphilis, although, of course, not pathognomonic of syphilis, but nearly always present; we get it in badly nourished infants, but this helps in our diagnosis.

We can, roughly speaking, divide these lesions of congenital syphilis into superficial lesions and deep lesions; superficial, involving the skin and mucous membranes; and the deep lesions, involving the bones and viscera. The syphilitic children are very apt to get osteochondritis, which yields to treatment. They also get cirrhosis of the liver.

Remember that in syphilis mercury is a tonic; it increases the number of the red corpuscles.

Case III. Enteritis.—This case is two years old. It was in the hospital for about six months. I showed it when it had a persistently high temperature every fifth day, from 104° to 105°. Between the attacks the child was perfectly well, and it was one of the most puzzling cases I have ever treated. We examined it over and over again in the hope of finding a cause for that high temperature. Repeated examinations of the blood failed to show the presence of the plasmodium, and quinine and arsenic did not control the temperature. I think the case went out of my service and I was told it was finally thought to be a form of malarial fever and it was discharged. The mother now brings it back with evidence of enteritis. The strange thing about this case was that its temperature did not bother the child at all. The child has tenesmus. It has been fed on milk and water and crackers; temperature, 100°.

Now, in a case of this kind, my treatment is to absolutely suspend anything that will harbor bacteria. In other words, cut off milk in any shape and form. You can do this for several days without any trouble at all. The child at first is given water freely, then an albumen water, the white of one fresh egg dissolved in eight ounces of cool water, so you have the proteids, and you do not want any fat on account of the diarrhea. I gen-

erally add 10 drops of aromatic spirits of ammonia to give it taste. You can give this for several days. Another form is expressed beef blood and water—just warm a little piece of beef and squeeze the blood out of it with a lemon squeezer, skim off fat and give it diluted 1 to 3 in water.

I should give this child a washing out of the bowel in order to remove any strings of mucus or blood that may be present. I would not care to pass a rectal tube; it is a very difficult matter to get past the sigmoid flexure. Use an ordinary short rectal tube. Raise the buttocks up a little and let the water run in very slowly and you can almost always get past the sigmoid flexure and into the bowel. It is better for the infant.

Take the baby off milk for twenty-four hours. We will give it water and beef blood and large doses of subnitrate bismuth, 15 to 20 grains every three hours. That is a rather simple treatment of diarrhea, but in the great majority of cases it is sufficient. I have used every drug that has been recommended for these diarrheas, and I do not believe in the so-called antiseptics, and certainly not in the astringents. Antiseptic drugs are irritating drugs almost invariably. I do not use resorcin or any of those preparations. If you use bismuth, 3, 4, or 5 grains has very little effect. The action is local. It is to coat over the bowel. In post-mortems you can see it float along the bowel—it is not absorbed. I give it in powder—it will not mix, of course, with water. I write a prescription for powders, and tell the mother to put one powder in a teaspoonful of water. If, after a day or so, the bowel acts too freely, use opium—there is no drug that has been abused more than opium, but the pendulum has swung too far. When I have cleared out the bowel, stopped fermentable foods, if it still keeps acting too freely, I give 20 to 25 drops of paregoric. Do not give an opiate in a mixture for diarrhea. Sometimes two or three drops of an opiate will stop that extra action of the bowels which is so irritating and annoying. Ffteen drops of paregoric, 20 grains of bismuth put on top, stirred up and given to the baby; as the bowel gets more quiet I leave out the opium and keep up the bismuth.

When you start the milk again you begin with a very high dilution; always begin with such dilution and work up to the tolerance of the baby. In a case of this kind I give egg water in mutton broth; then I give one-quarter milk and barley water. If this is digested, I give one-half milk and water, and in a few days I give cereals.

Case IV. Insipient Phthisis.—Eleven years old. Family history, father has rheumatism. Boy was bottle fed. During the last six months his father noticed that he did not care to run about or play, then he began to cough. He was very sleepy. Bowels have been regular; he has been spitting up phlegm; has cold sweat upon his forehead. Physical signs show consolidation at left apex.

It is not difficult to make a diagnosis in this case of incipient phthisis. The prognosis is much better in children than in adults. If we can get this boy under proper hygienic conditions and force his nutrition, he will get well. I think a very good rule in phthisis is if you can begin to make the patient gain in weight—I do not care what the signs are—the patient is doing well. Put on flesh and you need not care much about the other things.

Case V., Chorea.—This girl is thirteen years old. Up to four years of age she could speak perfectly well, then suddenly she began to point when she wished things instead of asking for them. When pressed to speak she would utter a peculiar sound. There is no trouble when she sings. She sometimes requires a minute to say a word, and then says it correctly. This is not an ordinary stutter. It is a very rare manifestation of chorea. Her hands do not twitch, but she is very restless at night; she does not stumble; her mouth twitches.

In general we have two forms of chorea. One is known as ataxic chorea, which is accompanied by a loss of power of certain muscles. Children with ataxic chorea will drop objects, as plates, and often are punished for it. These children are supposed to have paralysis, but an examination shows that they may not be paralyzed. It is simply a peculiar form of ataxia, and this is not infrequent. When a mother brings her child, saying she cannot hold objects well, you will examine for the purpose of ruling out paralysis. These children seem to have an uncertain prehensile power. It is important to remember that, because they are readily cured by arsenic, which is the best treatment we know of for chorea.

The other form, with constant twitching, we know readily, and it is much easier to diagnose. A very rare manifestation is the involvement of the muscles of speech. I have only seen two or three cases in my life. In one case the girl uttered a peculiar vocal sound, which was found to be due to chorea, and it disappeared under treatment for chorea, but came on again, for we know these cases of chorea are very apt to recur. These cases are marked with hydremia, a watery condition of the blood, and the indication is to give them iron and arsenic. Under this treatment the majority of the cases of chorea will be cured in five of six weeks, even though exceedingly severe. In some cases the arsenic is to be pushed to its full physiological dose. I generally start with five drops of Fowler's solution, well diluted; after the second day I increase one drop, and this is increased to the point of tolerance. We know the point of tolerance by a slight nausea, and sometimes a little puffiness under the eyes. Suppose we get up to fifteen drops, and if the child complains of nausea and there is a little puffiness under the eyes, I take off two drops and hold it at that. It is often necessary to give them iron as well, and the mixture that I often give is this:

℞ Liq. Potas. arsenit.....3ii to iii
Ferri. et ammon. cit.....3ii
Glycerine 3ss
Aqua ad.....℥iii

Sig. A teaspoonful in water after meals.

This child should be taken out of school. When the chorea is in an active stage they should not be allowed to associate with other children. They are teased and mimiced, which always makes them worse. They should be kept in the open air as much as possible.

We usually get with chorea two other conditions. One is rheumatism, preceding, accompanying or following it. The other thing that may precede, is endocarditis; it may follow or even complicate it, so that practically we have in this disease a possibly serious condition and when we have one of these conditions we must always look for the others—rheumatism and endocarditis. These children should not be pushed in school.

I am very glad to have a chance to show you this case. I really think you will never see another like it. In my recollection I have only seen two.

She has a peculiar twitching of the tongue. Sometimes you will find a peculiar tremor—I do not see it in this case, but you will get it in some cases, particularly in ataxic chorea, to which I have called your attention.

FECAL OR INTESTINAL FISTULA.*

BY WILFRED G. FRALICK, M.D., NEW YORK.

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WHEN I was honored by an invitation to present a paper for your discussion to-day, it occurred to me that the subject selected would interest you, and could profitably be discussed at this time. In choosing so broad a subject I have assumed to merely scan a topic, touching only the most salient features, or those which have proved of the greatest interest to me. While portions of my paper are apparently suggestive, the statements which I will make are, in the main, the result of my personal observation, and I trust may prove sufficiently interesting to evoke your criticism, thus enabling me to share with you your experience in conditions which entail so much suffering and which bring about such serious and distressing consequences.

During my fourteen years of professional work I have had under my care twenty-seven cases of fecal or intestinal fistula. In this number I do not include any case of artificial anus, the distinction being that artificial anus is made intentionally by the surgeon in healthy tissue, while a fecal fistula is the result of a pathological process which has destroyed a portion of the gut at one or more points.

Fecal or intestinal fistula may communicate with another part of the intestinal tract, the bladder, vagina or uterus.

The causes which gave rise to the cases of fecal or intestinal fistula, from which my paper is formed, are in their order of frequency:

(1st) Appendicitis, 11 cases; (2d) pelvic and abdominal abscesses independent of appendicitis, 9; (3rd) strangulated inguinal hernia, 3; (4th) strangulated femoral hernia, 2; (5th) foreign body, 1; (6th) adherent tumors, 1.

Other causes, not within my experience, however, are cancerous deposits; gun-shot and penetrating wounds, actinomycosis, sutures, foreign bodies in the intestinal canal, ulceration of the bowel, and injury to the bowel during abdominal operation.

You will observe that appendicitis is the most frequent cause of fistula in the cases which came under my care. Fistulæ from this cause occur either by perforation or sloughing of the appendix, or the appendiceal abscess ruptures, either into the cecum or intestine. In nearly all of my cases there was an extensive local peritonitis with a limiting wall formed of inflammatory products, which confined a sloughing or gangrenous appendix as well as the intestinal contents which had escaped.

I will cite one case which will serve to illustrate the pathological conditions present in the others; which differed only in the degree of degenerative process in the bowel and extent of peritonitis.

On the morning of June 27th I was called in consultation by Dr. Raymond, of New Rochelle, to see a patient of his, a man about forty-eight years old. The patient gave a history of having had a trouble in the region of the appendix five years previous to the present attack. When I saw him he had been confined to his room ten days. His temperature was 102°; pulse, 125, compressible and thready; the right thigh was flexed on the abdomen; the abdomen was tense, distended and tympanitic, with an area of dulness above the crest of the illium and well over toward the corresponding right side of the abdomen. Nothing had escaped from the rectum for thirty-six hours; nausea was present, and the patient had vomited a brownish substance, which I did not see, but the attending physician thought he detected a fecal odor to it. I advised the patient's removal immediately to the hospital, and that enemas of oil and turpentine be given; also that the patient be prepared for an abdominal operation, which I did that afternoon. I made an incision about two inches long at McBurney's point. When I had divided the skin, the tissues underneath were greatly infiltrated and gave to the sense of touch that peculiar crackling sensation met with in emphysematous conditions. The dissection through the remaining tissues, except the facia of the external oblique, was made by dry dissection. When I had reached a point where I thought I detected fluctuation I carefully packed the surrounding parts with gauze and then opened into the fluctuating mass, from which escaped pus, fecal matter, intestinal slough, and with a slight effort I detached the distal end of the appendix. Careful as I had been not to disturb the infiltrated and friable tissues, a rent in the gut large enough to insert two fingers was brought into view. The parts were thoroughly cleansed with pure electrozone, the wound packed with electrozone gauze, and, with the usual outside dressings, the operation was terminated.

From the effects of this operation the patient reacted well and made an uneventful convalescence. During July and August I visited the patient frequently. By the middle of August the suppurative process, as evinced by discharge of pus, had entirely disappeared, intestinal contents alone escaping. On September 24th I visited the patient. The opening in the intestine admitted my two fingers. With the knowledge that the slough had removed a large portion of the gut, I felt that spontaneous closure, if possible, would be too slow a process, and even if successful, a stricture would surely ensue. I advised an operation for its closure, which on September 28th I performed. I made a resection of the bowel, joining the parts together by end to end anastomosis; using a Lambert suture of No. 0 plain catgut for mucous membrane, for the muscular coat, a continuous suture No. 1 plain catgut, and for the serous coat, a running suture of No. 1 plain catgut. In the parietal peritoneum I used No. 1 plain catgut; in the facia, No. 3 plain catgut; No. 1 was again used for a cosmetic or subcuticular suture of the skin. I left an opening sufficient to admit of gauze packing, which was made to come in contact with the sutured gut. An electrozone compress was applied, over which was placed a pad of combined dressing, and then a many tailed bandage. The patient was returned to his room in good condition. The following day he passed flatus. A free evacuation of the bowels took place on the fourth day. All packing was removed on the seventh day; the wound being perfectly clean, was allowed to granulate, which process was complete at the end of the third week. At the end of the fourth week the patient left the hospital cured.

I will briefly direct your attention to pus accumulations in the pelvic and abdominal cavities. Pelvic and abdominal abscesses caused but nine of the twenty-seven cases which I have to report. Statistics, however, gathered from many sources, show this to be the greatest cause of these fistulæ. It is quite true that pus may remain encysted in the abdominal cavity for years without serious results to the patient. Many of us have removed pus tubes and encysted pus sacs or fistulous tracts from masses of agglutinated intestines where the history pointed to infection several years prior to the operation. Escape from danger may be explained in many cases

* Read before the State Medical Society, February 13, 1901.

where Nature provides an exit for the pus through the intestines, rectum, uterus or bladder. These patients are, however, in a chronic state of invalidism, suffering from intra-pelvic pains and recurrent attacks of intra-pelvic inflammation. It is in these chronic cases that the ingenuity and skill of the surgeon is taxed to the utmost.

For the purpose of illustrating I will cite the following, which presents characteristics common to many of the other cases:

The surgeon opens the abdomen, finds, perhaps, the peritoneum attached to the intestines, the intestine a mass apparently solid. He marvels that peristalsis is not arrested or that intestinal obstructions had not taken place. He looks for some landmark, but sees none. The bladder, tubes and uterus are all interred, not dead nor peacefully slumbering, but struggling to free themselves from the fibrous bands that hold them fast. His quick eye finds a vulnerable point; his deft fingers penetrate the ugly mass; his countenance brightens as he sees perchance, a tube, which he follows a short distance; again his face assumes a serious expression—he is contemplative, for alas! the tube was but a fold of intestine, an appendix or a pus sac. He works on, ever ready to stop, but no pretext presents itself. Finally the tube is reached; hard fast to the colon. He separates them. Instinctively he sniffs, not twice or thrice, but once, and brushes away the granular mass, calls for an antiseptic and intestinal needle, and carefully closes the hole in the bowel, removes the appendix, tube or old pus sac, packs the cavity, and speedily terminates the operation. Not so with his anxiety—it has just begun, for several days must pass ere he knows, not only whether his patient will survive the operation, but whether a fecal fistula will result.

I have closed as many as five openings in the intestines in one patient during an operation such as I have just cited. I have removed a fistulous tract having four distinct arms, each one opening into the bowel at a different point.

Strangulated hernia comes next in order of frequency, five resulting from this cause. The one which I shall mention is of such very rare occurrence that I am sure you will grant me the time I shall consume in discussing it.

On the morning of August 12th, Dr. Connett, of Morristown, New Jersey, telephoned me that he had just seen what he took to be strangulated femoral hernia, and which he thought needed an immediate operation. I took an early train, and operated on the patient that afternoon. I saw the patient at 2 P. M. Her general condition seemed very good. Her temperature was 99½°; pulse, 100; vomiting quite often; color was brownish, odor of which was fecal. A large diffuse swelling, very tender, red, dull on percussion, was seen in the right groin, in the region of Scarpa's space. My diagnosis agreeing with Dr. Connett's, the parts having been previously prepared, an operation was immediately performed.

An incision was made, beginning about 1½ inches below Poupart's ligament, over the tumor and extending about two inches above it, along the inguinal canal. At or near the lowest part of the incision a sac was reached and carefully opened. The contents consisted of a loop of small intestine, cecum and vermiform appendix. The small intestine presented a greenish gray mottled appearance. The appendix and cecum were black and gangrenous. The sac and contents were held fast by dense adhesions. I enlarged the openings, the saphenous and femoral, walled off the abdominal cavity, and after a tedious dissection, returned the sac and contents to the abdominal cavity. I removed the appendix, stitched the diseased intestine to the abdominal wound, carefully packing, then completed my operation for the femoral hernia. The patient suffered very little shock. A few days later the bowels moved, mostly through the abdominal wound, forming a fecal fistula. Four weeks after the primary operation I did a resection of the bowel, making an end to end anastomosis, from which the patient recovered and is well.

I have consulted every available authority, foreign and domestic, and find no similar case recorded.

I have had another case, where the appendix alone was the sole contents of the femoral hernial sac.

Fecal fistulæ resulting from foreign bodies, I have had but one case. Three years ago a woman was referred to me for examination. She gave a history of having had a laparotomy performed for the removal of a tumor two months prior to her visit. She complained of severe pain on the left side, in the region of the sigmoid flexure and left kidney. Her bowels acted with pain and great difficulty. Palpation revealed a large hard mass in the above region. I advised an operation, and two days later I performed it.

The intestines in the region of the tumor were drawn up into coils and matted together. After a dissection lasting three-fourths of an hour, I reached the cause and removed it. A large gauze sponge which had been left in the abdominal cavity after her previous operation had imbedded itself into the small intestine and colon. The patient survived the operation for six weeks, during which time fecal matter poured from the abdominal wound. Death probably resulted from extensive destructive process in small intestine.

Fecal fistula of the intestino-vesical variety is also of quite rare occurrence. I saw one case of this kind in consultation with Dr. Trotter, of Yonkers. The fistula was very small and gave very little trouble. As the patient was sixty-seven years of age, and suffered little inconvenience from it, I advised against an operation.

Adherent tumors gave rise to one case of fecal fistula. They were of the fibroid variety, and had undergone calcareous degeneration. They were firmly adherent to the gut. After the tumors were removed a fecal fistula ensued.

Seven of these fistulæ closed spontaneously, one remains open; one patient died six weeks after the primary operation, and eighteen I closed by secondary operation.

I am aware that I have omitted to discuss many interesting and important features associated with fecal fistulæ, but the time allowed would not permit me to go more fully into the subject.

In closing, let me say that I believe, as a rule, those men will do the best work, will serve their patients best, who will adapt their methods and technique to the individual cases as they arise; who operate to relieve and cure their patients—not to demonstrate that this or that method is better than some other.

THE "SENSUAL DROP."

BY J. HUBLEY SCHALL, M.D., BROOKLYN, N. Y.,

Pathologist to the Memorial Hospital.

THE tale of woe which sexual hypochondriacs pour into the surgeon's ears is almost endless and of great variety.

Men who have indulged in excessive venery imagine in after years that, as a result of their former vicious practices, they are suffering from innumerable sexual diseases. These ideas often originate from quack litera-

ture, or interviews with indifferent physicians, who diagnose every mucus discharge from the meatus as spermatorrhea, prostatitis, gleet, etc. Such an opinion being given without the aid of a microscope, can only be looked upon as a surgical farce.

Most of the patients presenting themselves are found to have no symptoms other than those coming from a disturbed peace of mind.

Should there be a slight deviation from a healthy condition, it is magnified many times.

In most men, during a period of prolonged erections, or giving way to sensual thoughts, a perfectly clear, stringy, odorless, mucus, resembling the white of egg, escapes from the meatus.

After dalliance with females, men often notice this secretion and become much concerned, as they imagine they are losing what they term as their "manhood." It often shows itself in healthy and vigorous individuals, who are undergoing a long term of courtship, especially where the mutual affection between lover and fiancé is very marked, and the sexual excitement in the man is frequently intense. In these cases the secretion is so profuse that much mental anxiety is experienced by the patient. Many young, neurotic individuals become pronounced hypochondriacs.

Patients having had gonorrhea may see, for some time, a little clear mucus within the meatus, and others, who have not had gonorrhea, may see the same. They consult the surgeon, weighed down with groundless, morbid fear of something which they think may lead to permanent disability of their sexual apparatus. About the first thing patients will do will be to squeeze out a little of the secretion, and then look the picture of distress, and tell you that they are surely losing their vitality.

The urethral "drop" frequently complained of after severe straining at stool, is often diagnosed as prostatorrhea, and is looked upon by many as a serious condition. Quacks find these individuals good-paying and oft-returning victims.

It is well known that persons giving a history of former gonorrhea have a certain predisposition for this affection, and I must not omit to mention that, during the course of different inflammations of the urethra, discharges are, clinically, very difficult to distinguish from the "sensual drop" sometimes observed; such discharge has nothing to do with erections.

This "sensual drop" is the secretion of Cowper's and Littre's glands and the urethral follicles. The bodies of these glands are considerably compressed during erection into the parts situated between the vessels of the corpora-cavernosa. Furbinger states that it has nothing to do with the prostate.

Under the microscope epithelial and some round cells are found, but no spermatozoa.

It suffices here to say that whenever a clear and transparent urethral discharge is spoken of, the secretion does not come from the normal or abnormal prostate.

The secretion from the prostate is never a "transparent mucus," but "fluid and milky," and contains numerous amyloid corpuscles, typical cylindrical epithelia cells and large spermatic crystals.

The treatment of the "sensual drop" consists in assuring the patient that the affection is harmless, but obstinate, and of a physiologic nature, and that it will cease when marital relations are established.

An opinion should never be given or a diagnosis made without the aid of the microscope.

RECENT EXPERIMENTS IN ANESTHESIA.

BY DR. A. G. ELLIS, PHILADELPHIA, PA.

THE more recent experiments with anesthetics are being made with combinations of two or more of them, with the view of obtaining the good effects of each and mitigating the untoward effects of all. Chloroform and ether have qualities which, if they could be combined in one, would make an ideal anesthetic. Chloroform has a more agreeable odor than ether, it is less irritating to the air-passages, owing to the small amount used, it is less apt to be followed by nausea and vomiting, it is rapid in action, and but a small bulk has to be carried and used—but it kills. Whether this latter fact be due to an inherent quality in the drug itself, which makes it dangerous, or whether greater skill in its administration than the majority of physicians possess is needed, remains a question. That it causes death more often than does ether is proved by statistics including many thousands of cases. Many of the enthusiastic suporters of chloroform, some of whom use it as a routine anesthetic, admit that is is a more dangerous drug and that not more than one physician in twenty is competent to administer it. But even if chloroform can be administered successfully by expert anesthetizers in cases where it is not contraindicated, the fact remains that for general use it is not so safe as ether. This conclusion is gradually being reached in England, where chloroform has had some of its strongest supporters.

On the other hand, ether, while safer than chloroform, has to be given in large amounts, thus causing more irritation to the air-passages, with the pouring out of a large quantity of mucus. A longer time is necessary to produce anesthesia, and the beginning stages are often accompanied by disagreeable struggling and other manifestations, while retching and vomiting are exceedingly common after-effects. How, then, shall chloroform and ether be combined, if at all, to produce the best results?

Of the so-called mixtures, two principal ones have their advocates, though neither is very popular in this country. The A. C. E. is the older of the two. It has been especially recommended for patients who have mitral regurgitation or obstruction, the stimulant effect of the mixture helping counteract the dangerous strain thrown upon the heart. Others place no dependence upon the mixture because of the different volatility of each of its ingredients.

The different mixtures of Schleich give more promise and are being tried with considerable success, one author being convinced that this method will practically revolutionize older methods and will be generally adopted in the near future. The anesthetic is given practically in the same manner as other anesthetics. Great care must be observed as to the amount used, small doses giving slow but certain results. Schleich used for some time a special mask, but has given it up and uses practically the American idea of the paper-and-towel combination. "By the Schleich method the patient becomes anesthetized quickly, and recovers rapidly from the anesthetic, those who are under a brief narcosis awaking almost immediately after the completion of the operation. After an average of five minutes of administration the abdominal muscles are relaxed. The stage of excitement is rare, even in the alcoholic, and cyanosis or nausea is very unusual. The after-effect is about as frequent as with the use of chloroform. There is neither salivation or bronchitis. The pulse remains good, and after the administration of Schleich's anesthetic the pa-

tient awakes feeling more refreshed than if he had taken ether or chloroform. Schleich has collected three hundred and sixty cases in which he used this method with uniformly favorable results."

In the *Medical Record* of April 2, 1898, Stillman and Greeley report forty-four cases anesthetized by this method. The average duration of operation was fifty-two minutes. The average amount of anesthetic used for each patient was three and one-half ounces, seven-eighths ounce being necessary to produce anesthesia, and the time necessary for production being an average of ten minutes. Patients recover consciousness in about fourteen minutes. During the following twenty-four hours eighteen were nauseated, three of them more so than after ether-administrations at former operations. In one case during recovery there was excitement for half an hour. Three cases needed stimulation, and in one of these Schleich's anesthetic was stopped and ether substituted, because of the weak pulse. In general, both the pulse and the color were good. The inhaler used was that of Esmarch, covered with a single thickness each of gauze, flannel and oiled muslin. In the June 11th issue of the same journal is a report of fifty-six cases in which Schleich's mixture was used. Vomiting was absent, the stage of excitement was of brief duration, and there was only moderate cyanosis. The longest operation lasted about two hours, and the largest amount of the anesthetic used in one operation was four ounces of Mixture I.

G. W. Green (*Chicago Med. Recorder*, March, 1898), makes a report of one thousand consecutive administrations of anesthetics at Augustana Hospital. Chloroform was used three hundred and seventy times, ether twenty times; chloroform first, followed by ether, six hundred and ten times. In the first three hundred cases chloroform was used, unless there was some contraindication. In the next four hundred chloroform was given until surgical anesthesia was produced, when it was maintained with ether. In the last three hundred cases chloroform was given as long as the patient was able to count, then chloroform and ether together, not mixed, but dropped from separate bottles, until anesthesia was produced, which was maintained by ether. The Esmarch mask was used for both chloroform and ether, the framework being covered with twice as many layers of gauze for the latter as for the former. No deaths occurred during anesthesia, and no deaths followed which were in any way traceable to the anesthetic. If retching or vomiting occurred the head was turned to the right side and phrenic compression, as suggested by Joos, was tried. This maneuver proved successful in thirty-four cases, and unsuccessful in thirty-nine. There was retching in one hundred and sixteen cases, and retching and vomiting in one hundred and twenty-one. Most of these occurred in the chloroform-and-ether anesthesia, and after a change was made to ether. Many times this was due to changing from chloroform to ether too quickly, giving the anesthetic too slowly, or transferring the patient to the operating table before anesthesia was complete. The period of surgical anesthesia was determined by the existence of contracted pupils, general muscular relaxation and deep respiration, with a good pulse. The corneal reflex was never sought for. In laparotomies necessitating the breaking up of adhesions, and operations about the rectum, it was found that if the patients were profoundly anesthetized before being put upon the table there was much less shock than if the operation was commenced a little before, or just as soon as, surgical anesthesia was produced. In resuscitating a patient from the asphyxial condition the first thing done was to see that air had free access to the lungs. The feet were elevated to an angle of forty degrees, and artificial respiration was performed. No heart stimulants were used and no oxygen gas was given. The sphincter ani was always stretched and ether poured on the belly, but artificial respiration was the only measure that seemed of benefit. The author maintains that the anesthetic should never be crowded upon a patient under any circumstances; that the patient should never be moved from the bed to the operating table unless fully anesthetized, and that he should never be lifted in the arms of an assistant, nor should the head be raised above a horizontal position during anesthesia. When the heart-center has become so paralyzed by the anesthetic that there is no bleeding, or very little bleeding, from the wound, no more anesthetic should be given under any circumstances.

Frederic W. Hewitt (*Lancet*, Feb. 19, 1898), writes upon the use of anesthetics, his comments being based upon 6,657 administrations at the London Hospital. Several years ago chloroform was in routine use, but experience has somewhat shaken his confidence in it for general employment. This is in accordance with the previous statement in this article regarding the trend of English opinion in respect to chloroform as a safe anesthetic for routine work. He accepts the statement of several investigators as to the depressing effect which chloroform produces upon the heart, and that cardiac dilatation of varying degrees may be brought about by this anesthetic. It is this dilatation of the cardiac cavities which makes chloroform less safe than ether. There is no question that respiration should be carefully watched, and that every breath should be both heard and felt. It is of great importance to avoid obstruction to breathing, except to a very minor degree. A minor degree of obstruction, recognized by a softly snoring sound, is rather a favorable element than otherwise, because this slight obstruction keeps the respiratory apparatus freely and audibly working, and hence the circulation is well maintained, because, as we know, free thoracic movement has a great influence in the maintenance of good circulation. Very tranquil or almost imperceptible breathing may arise under chloroform, independently of an overdose. This condition is most common in patients with free respiratory passages, and is liable to come on after respiratory excitement. It is more common in chloroform than in ether, owing to the more irritant effect of ether and the great amount of mucus secreted, and to the greater extent to which air is excluded during the administration. Tranquil breathing in chloroform anesthesia is of importance, because, unlike the analogous condition under ether, it is liable to lead to pallor and feebleness of the pulse, because the heart of the patient under chloroform is less able to meet the strain thrown upon it by feeble respiratory action than is the heart of the patient under ether; hence it is wise to avoid very tranquil respiration under chloroform, even during light anesthesia, and the anesthetizer should endeavor, when snoring breathing has been induced, to maintain it by a moderately free application of the anesthetic agent; but if snoring has never arisen, or has been permitted to disappear, it is wise to induce it artificially by pushing the lower jaw gently backward. The breathing wil at once increase in force and circulatory depression will be counteracted. In some cases the administration of more of the anesthetic will have the same effect. It is possible that during snoring breathing carbonic acid is retained in the blood in larger amounts than during unobstructed respiration, and this retention may serve to explain the improvement in the

patient's condition, for there is an antagonism between chloroform and carbonic acid, especially during the recovery of the nerve from the effects of the anesthetic.

There is a great deal to be said in favor of the use of ether and chloroform in succession. The stage of rigidity and excitement, which is the danger stage under chloroform, is passed over under the stimulant effects of ether. Deaths during this stage are practically unknown with ether. Having secured a proper degree of ether-anesthesia, chloroform may be substituted, and anesthesia from chloroform will be more satisfactory than if chloroform had been given from the start. Hewitt has adopted this principle for several years, and finds that he is able to use chloroform without the recurrence of those symptoms which are occasionally bound to arise from the use of this agent from the beginning of administration. He considers this development as one of the most important of recent years. If the operation is a short one, and the administration of the ether was free from difficulty, it is not necessary to change to chloroform, but should ether cause cough, difficulty of breathing, or profuse secretion of mucus, or should the operation be a long one, the change is desirable. This change must be effected carefully. If, when the patient is under ether, chloroform be given in the ordinary manner, an undesirable amount of chloroform may be absorbed by the forcible respiration and active circulation produced by ether. There should always be some evidence of the patient coming out from ether-anesthesia when chloroform is applied. It is best to have brought about, and in most cases the change should be made, before the operation is begun. After ether-anesthesia has been established very little chloroform is needed to keep the patient unconscious. By this plan of changing from ether to chloroform the anesthesia from chloroform is really as safe as the anesthesia from ether, and, indeed, the risk of subsequent bronchial or pulmonary trouble is reduced. The circulation is so excellently maintained that for the past two years Hewitt has given chloroform preceded by ether to a large number of patients in the sitting posture, and in not a single case has he been obliged to place the patient horizontally because of undesirable symptoms.

This report of the use of ether and chloroform in succession is most interesting, especially when taken in connection with Green's experiments with the different anesthetic agents in succession. We believe that it is along this line, rather than in the use of mixtures, that the greatest progress is to be made in the production of anesthesia and the avoidance of its ill-effects. There is more certainty and confidence in the giving of a single drug than in the use of a mixture, and confidence on the part of the anesthetizer is a very essential element in his success. Hewitt's results in regard to the sitting posture of his patients are certainly remarkable, considering the large percentage of chloroform deaths that occur because of this position, notably those happening in dentists' chairs.

The much-mooted question of what to watch during chloroform anesthetization is still under discussion. Hewitt states that if chloroform be given in such a manner that the conjunctival reflex is not completely abolished, it is true that pulse-observations are useless in estimating the effect of the anesthetic. In fact, in such a degree of anesthesia the pulse may mislead an experienced anesthetizer, for it may become weak just before vomiting, and such weakness may be supposed to contraindicate more anesthetic, whereas it really calls for more; but if chloroform be pushed so that the conjunctival reflex is positively abolished, the surgeon will find that pulse-observations will help him. The arterial tension fails. This condition can be recognized in the operating room as well as in the physiologic laboratory. Every patient must not be expected to have a satisfactory pulse, and no alarm need be felt at the evidence of low tension which may assert itself, because a certain amount of pallor and a slow and rather weak pulse are not necessarily danger signals. The pulse itself helps greatly in coming to a decision as to whether more or less of the anesthetic is needed. By carefully observing and interpreting pulse-changes it is often possible to prevent paralytic respiratory failure.

H. A. Hare teaches that respiration is the function to be watched during the administration of chloroform. He "thinks that while in its general depressing powers it depresses all vital functions, it is the question of blood-pressure which is most important in the healthy individual, althoug the heart may fail if it be damaged by disease before the drug is used. The primary action of the chloroform is to depress the blood-pressure, chiefly by its vasomotor effect; secondly, by its cardiac effect, and finally, while the drug does exercise a depressing effect on the respiratory center, the failure of this center is chiefly due to anemia. As, however, an intact respiratory center means regular breathing, we watch this function to determine the dose of chloroform actually inhaled, and because any variation in this function, as shown in irregular breathing, means that the chloroform is disordering the arterial tension."

Wilson (*Lancet*), says that when death results from the use of chloroform it is always from failure of the circulation, and the widely divergent symptoms attending dissolution depend upon the degree of narcosis present when the failure of circulation has reached a point which renders impossible the proper nutrition of the vital centers. The signs of danger have to be read from the organs which are left intact to give them. If failure of circulation takes place early, before the general muscular system is narcotized, it will be indicated by accelerated respiration, dilated pupils, and general convulsions resembling epilepsy. One fatal case is reported by Wilson. If the degree of narcosis is still deeper when the failure of circulation takes place, the anesthetized muscular system will not respond as a whole, and there will only be spasm and disordered action of the muscles least involved. There will be clenching of the jaws and rigidity of the chest muscles. Failure occurring at the stage of ordinary surgical anesthesia, when all the muscles are relaxed except those of the respiratory system, will be indicated by exaggerated respiratory movements and dilated pupils.

Alexander Haig, after stating that most, if not all, deaths from chloroform are due to vosa-motor paralysis, says it is important to know the means for estimating the blood-pressure in a patient under chloroform. The heart and pulse are uncertain guides, but the pulse must be considered in conjunction with other signs. The best index of the condition of the blood is the capillary circulation; the best way of testing this is by pressing on the lips or gums, releasing the pressure, and noticing how rapidly the blood returns. Capillary circulation being a matter of blood-pressure, the state of the former indicates the condition of the latter.

In resuscitating patients from the asphyxial condition due to an anesthetic many expedients are tried, artificial respiration being probably the most sure, though it should be reinforced by other means. Threatening symptoms occurred in thirteen of Hewitt's 6,657 cases. One was instantly relieved by venesection, ten ounces of blood being withdrawn, and no other measure being nec-

essary. In another artificial respiration alone was used. Tracheotomy was necessary in a third case.

Hare teaches to invert the patient, lifting the head upward and forward, thus extending it as does a trained runner, and in this way keeping the half-arches open and allowing breathing through the mouth. Howard's method he claims will open the epiglottis but closes the mouth. He advises Marshall Hall's method of respiration and treats the patient generally as for violent hemorrhage with one exception in chloroform-asphyxia—no transfusion is given. This is too slow, besides the fact that there is little use of pouring fluid into the greatly dilated vessels. Electricity is of very little value. Rhythmic traction of the tongue is of great service at times. (In this connection Hare states that the tongue forceps is an instrument of torture and is very seldom necessary during the administration of an anesthetic. Deaver, at the German Hospital, does not allow his anesthetizers to use forceps.) One man was so large that artificial respiration could not be used and, as a forlorn hope, rhythmic traction was resorted to, and in fifteen or twenty minutes recovery began.

W. W. Keen stated in his clinic, March 22, 1899, that during the week preceding one of his patients had nearly died during etherization and that there had been two deaths in Philadelphia within three weeks, both cases dying before the operation had been begun. As a result of his experience he had practically given up operating, except in a hospital where all the appliances for dealing in emergency cases were at hand, unless the case was one where immediate action was necessary. He emphasized the necessity of having at every operation: 1. Plenty of assistants; 2. Table permitting Trendelenberg position; 3. Oxygen cylinder; 4. Every drug, battery, etc. that may be used in resuscitation.

Several experienced anesthetizers find vinegar to be of great service in relieving post-anesthetic vomiting. Green, in the article referred to, states that retching and vomiting were relieved by a napkin wet with vinegar laid over the nostrils and an ice-bag over the phrenic nerve, small sips of hot water every fifteen minutes, and small pieces of ice, sips of strong coffee, and, in persistent cases, hot rectal enemata of normal salt solution. Rugh states that vinegar is a restorative and soothing stimulant to the respiratory tract and the nervous system. It is given by saturating a towel with fresh, strong vinegar, preferably that made from cider, and holding it a few inches above the patient's face or hanging it near his head. It should be used immediately after the anesthetic is discontinued, and kept up continuously for hours. It also greatly relieves a patient's thirst and refreshes him.

At the German Hospital inhalations of oxygen gas are given as a routine after every case of anesthesia. Consciousness is restored much sooner, and disagreeable after-effects are very rare under this method.

ALCOHOL IN THE PRACTICE OF MEDICINE.

BY I. A. M'SWAIN, M.D., PARIS, TENN.

THE very prominence of men or things is a sufficient pretext to bring them under the crucial test of thorough investigation.

No agent has been more extensively used than alcohol. There is scarce an ailment or accident in the whole catalogue of ills to which human flesh is heir that it has not been vaunted as a sovereign remedy.

Conditions in all variety, and often diametrically opposite, have been the occasion of its use. To call in question its potentiality or its universal adaptability in the treatment of disease has been to invoke the most pronounced denunciation from prominent authorities in our art.

Both physician and layman have subscribed to its power, not only as a cure, but as a preventive of varied diseased conditions. It has also had the sanction of society; been dispensed as a necessary part of the common hospitalities on all sorts of occasions; resorted to as "the one thing needful" in festivities and holidays, and has been a sort of *vade mecum* to civilization in her progress through the earth.

To add to this, the beverages containing it produce a pleasant effect on the nerves of taste, and a general feeling of well-being and self-satisfaction, to gratify which most splendid equipments have sprung up all over the land, sanctioned by law and backed up by unlimited capital, to dispense this wonderful elixir, both day and night, to a thirsty multitude.

In a recent reprint of an article, read by a distinguished gentleman before the Cincinnati Academy of Medicine, among other things, the author says that "an intelligent opinion of the food value of alcohol may be estimated by the extent of its use by mankind under variable conditions." And then refers to its quite extensive use in some form by the nations of the earth from time immemorial.

We might be permitted to answer that the sounding of trumpets and the huzzas of the rabble may startle a community, and the multitude may quickly fall into line, but such demonstrations are not proofs that the boosted personage carried in the procession is either by lineage or qualification entitled to the crown.

Indeed, it may usually be suspected that where extraordinary pomp or vanity is displayed there is a lack of true merit, and that such paraphernalia is needed to cover the deformities of the subject from public inspection. For instance, the more a patent medicine is puffed by advertisement and chromo, the longer the list of diseases that it proposes to cure, the larger the suspicion of its worthlessness.

And by analogy it might be suggested that the very fact of alcohol having been recommended for so many ailments and opposite conditions is enough to create a suspicion in the mind of the unbiased and scientific student of its being deceptive.

The man of science is not influenced to any marked degree by surface appearances.

The late investigations on alcohol have been both laboratory and clinical, and conducted by men abundantly competent, and solely for the purpose of finding out the truth, and are not of that class of would-be "reformers and fanatics" referred to in the reprint mentioned above.

After somewhat extensive research into the literature both for and against the use of alcohol as a medicine and as a food, I am led to conclude, impartially, that it has a proper place in the treatment of certain diseases, and may with propriety be used in some emergencies, but that its use should never be indiscriminate, but always with that due caution that the thoughtful practitioner exercises in the use of an agent powerful for good or evil. He cannot say of this, as he does of many drugs, that, "if it does no good it can do no evil," for it does not belong to that catalogue of drugs labelled *inert*.

We grant also that it has some of the properties of a food, in that, as Professor Atwater has recently said, being readily oxidizable, it may, therefore, supply heat and energy to a limited extent. This statement is corroborated by other investigators, but all agree that

this is only true when used in very small quantities, and for a limited time, for, while it may contain an element of food, yet its action on metabolism or muscular energy and on the nerve centers is of such a depressing character as practically to prohibit its use as a food.

Many substances might be capable of oxidation, and in that sense be regarded as a food, and yet be wholly excluded on account of pernicious effects on the organism.

In all reason, ye ask, why search in this direction for food? Has not the beneficient hand of Nature filled earth, sea, and air with food?

The whole universe is literally teeming with material, both animate and inanimate, for the sustenance of the human race, and if properly distributed and prepared with reasonable skill, no human being on the face of the globe need suffer for one moment for food, even should every distillery, brewery, and wine press be instantly and totally destroyed.

There is no reason why eggs, milk, beef juice, and scores of preparations should not be used; in preference to ingestion of such foods rectal alimentation can be resorted to.

The arguments pro and con in reference to alcohol as a food seem to us to be a useless waste of time, and certainly upon the part of the affirmative indicate a terrible, and we believe hopeless, strugggle to defend an agent which, though probably possessing some worth, is so overwhelmed with such well-known evil and disastrous results as to cause its final overthrow from the list of food products.

We will now pass in review a brief summary of the physiologic effects of alcohol, selecting pathological states in which it is most commonly prescribed.

In digestion, small doses may improve to a slight degree the action of the gastric juice; large doses destroy the solvent power altogether. Small doses increase, to a slight degree, the *quantity* of gastric juice, but render it poorer in *quality*. Large doses produce irritation and inflammation of the gastric mucous membrane, and cause it to secrete a tough, thick mucus which has no solvent power on food products.

On muscular energy, it diminishes the *feeling* of fatigue by decreasing central sensibility and peripheral excitability. In a fatigued muscle it may furnish by oxidation a food material, and in small quantities may promote work for a limited time, but a fatigued muscle cannot, under its influence, attain to its normal contractibility, because the alcohol lessens peripheral nervous excitation. If taken in large doses muscular paresis is the natural result.

To an unfatigued muscle it adds no original strength whatever.

To sum up its action on muscular tissue, it amounts to this: The work may *appear* easier because of blunted perception, both central and peripheral, therefore the *feeling* or *sensation* of fatigue is diminished.

These conclusions are from observations made on man by means of Mosso's Ergograph, an instrument so arranged as to register the degree of muscular traction, and were reported by Fey in the *Edinburgh Medical Journal*, September, 1897.

These experiments and others of a similar character throw much light on the action of alcohol on the heart and arteries, and are of much value and interest, as the drug is so commonly given as a stimulant to these organs in various conditions where a stimulant is required.

We readily perceive by a careful study of the above statement how alcohol may appear to stimulate certain organs and tissues, while at the same time it produces a depressing effect on other organs. Now, it is well known that its paralyzing effect on the muscular fibers of the heart and arteries is most rapidly exercised. In other words, its effect on the nervous system is immediate and is realized much earlier than its nutrient properties can possibly reach and be appropriated by muscular tissue.

Hence in all algid conditions, or when the heart is already enfeeblel by disease of its own structure, or as the result of wasting disease affecting other organs, or in the crisis of acute inflammatory disease, and in convalescence, or in surgical shock, or in hemorrhages, or in arterial sclerosis, or chloroform narcosis, in short, under all conditions where it is of prime importance to preserve or restore normal central sensibility, and to maintain peripheral excitability, so that due nerve force may be applied to the heart and arteries, and to the muscles of respiration, in all such cases alcohol should be used with utmost circumspection, *if at all.*

The apparent stimulating effects of the drug in such cases—that is, quickened pulse beat and surface warmth—are often delusive; for, instead of increased force being added, the quickened heart beat and dilated capillaries indicate, more or less paresis of the vagus, hence a loss of central control of the heart and small arteries, and, notwithstanding the surface warmth, there is, by the thermometer, a reduction of bodily temperature and the impulse of the artery, though increased in frequency, is diminished in force.

The older members of this society were taught to give alcoholic stimulants (so-called) in large quantities in all cases of a weakened heart and flagging pulse. Many of us have faithfully stood by the tradition of the fathers, and have given draught upon draught of what we were taught were stimulants. We have seen, as a result, great beads of perspiration all over our patients, and while we perceived a quickened pulse we have felt it grow weaker. We have beheld the subnormal temperature, the labored breathing, and have, finally, in spite of our conscientious efforts to sustain the strength of the patient by this agent, turned away with a sickening and hopeless expression in the face of impending dissolution.

I stand here to-day to plead guilty to this charge in the indictment in former times. But for the past decade or two, in the face of a better light, and I trust a more correct understanding and appreciation of the nature of disease, and the character of a true stimulant, I no longer rely on alcohol as such, but, having about my person a case well supplied with hypodermic tablets of atropia, morphia, strychnia, caffein, digitalin, and nitroglycerin, a good working syringe, and a sharp aseptic needle, together with an improvised apparatus for using normal salt solution, there comes over me in those times of greatest trial a sense of security and self-confidence much more gratifying than was experienced under the reign of alcohol. And should I be called to any given case where the patient had been drugged with liquor, I would at once (public sentiment to the contrary, notwithstanding) discontinue the whisky and substitute true stimulants and good food.

Alcohol in Anesthesia.—Owing to its well known hypnotic effect alcohol may be administered before giving chloroform or ether, probably with advantage, as less of the anesthetic would be required. But the practice of giving it hypodermically or otherwise in chloroform or ether narcosis is to be unconditionally condemned, as it will surely add to the existing trouble by its paralyzing action on the brain and nerves.

In typhoid fever carefully prepared statistics

abundantly prove that the mortality rate is from 10 to 15 per cent. less when no alcoholics are used.

There is sufficient evidence to warrant the statement that alcohol should never be given to children in diseases of the stomach and bowels. And with the exception of its use in cases of diphtheria, it has no essential place in the treatment of infantile diseases, not caring to discuss its efficiency in diphtheria, which might be debatable, were it not for the fact that no one now need rely on it or any other drug, save the well known specific antitoxin.

In regard to its use for the prolongation of life or the prevention of disease, there does not appear a single intelligent reason in its favor. On the contrary, it is known beyond a doubt that by arresting tissue metamorphosis, paralyzing dynamic action of cell life, interfering with molecular arrangement, impeding or arresting the processes of digestion and assimilation of food, blunting nervous sensibility and susceptibility, thereby producing mental and normal degradation, which bear their legitimate fruit in sensual excesses, all of which cannot be otherwise than contributory to the production of disease and premature decay of vital forces.

Medicine as a science and art has made rapid progress on many lines within the past quarter of a century. Its possibilities in the future are large and encouraging. The duties of a medical man are no longer considered done when he has given aid to the sick and dying, but the doctor is an important factor in sanitary science and in all matters pertaining to health and longevity.

To fully embrace the wide domain of such a vocation it is imperative that mental and normal faculties of human beings be considered, as well as their anatomical and physiological structure and functions.

If this be true it certainly becomes a matter of great importance that the degrading influence of alcoholic liquor being so well known, its use as a beverage should receive no encouragement for medical men.

That it should be prescribed in diseases with as great care as morphine, cocain, or any other deadly drug, the use of which so easily become a habit, from the chains of which the victim sinks lower and lower in the scale of human reason and happiness, and may transmit to a numerous posterity the elements, not only of disease, but of crime.

It is our mission not to curse and degrade, but to bless and elevate. And in the front rank of advanced civilization let there be found the medical profession, bearing aloft the banner on which is inscribed the monogram of a triple "H"—Healing, Health, Happiness.

DISEASED TONSILS A MENACE TO HEALTH.

BY C. F. WAHRER, M.D., FT. MADISON, IA.

IT may seem strange that, at this date of advanced medicine, it may still be necessary to say much on this subject, but judging from the amount of suffering from chronic throat and nose diseases, and the train of consequences following them and affecting the general health, we are far from radical enough in dealing with them, even when brought to our notice, to say nothing of the many who suffer on in silence and are never treated in any way.

In this large Mississippi Valley, where the climate is variable and inconstant, diseases of the respiratory avenues are very frequent and troublesome. I will mention but two of them in this paper, because these two are far reaching in their effects on the general health, a continuous menace to the safety of the unfortunate individual, and emphasize the fact that in dealing with them we must be more earnest and more radical in our treatment, looking not to present relief only, but also to permanency in cure.

The two afflictions to which I wish to draw your attention are tonsillitis and tonsillar hypertrophy.

Tonsillitis in its acute, as well as in its recurrent or chronic form, we meet a great many times in our daily practice, especially in young adult life, and it is usually caused by a sudden lowering of the surrounding temperature, or from causes favoring the development of rheumatism. We then see such a patient's health is easily influenced, his immunity against disease easily overcome and, thus prepared, may become the prey to tonsillitis of varying degrees of intensity, from a common sore throat, producing pain upon swallowing only, to the most violent tonsillar inflammation with marked constitutional disturbance, characterized by headache, backache, stiff neck and adjacent regions, high temperature, chill, constipation, urinary disturbances, suppurative processes in and about the tonsils and surrounding connective tissues, from which, if drastic measures are not at once instituted, we may have a most violent infection, followed by endocarditis, edema of the glottis or an outbreak of articular rheumatism.

The time honored gargle of chlorate of potash, fat meat tied around the neck, exhibition of potash and iron mixtures, which serve well in many minor cases, will not affect these violent cases in the least; and nothing short of opening the tonsillar abscess, of which there are often more than one, calomel purges, large doses of quinine and guaiacum preparations, with especial attention given the kidneys and liver, the insufflation by a powder blower of orthoform for alleviation of pain, and, when of rheumatic tendency, the use of sodium salicylate, guarding the heart against any invasion, will influence these cases for any good that may redound to the comfort and safety of the patient and the glory of the attending physician.

In February, 1895, I was called to see a Mrs. S., about thirty-two years old, of previous good health, three children, who had a high fever, backache, headache, and aching all over, intense sore throat, which she could scarcely show me on account of swelling, temperature 104°, pulse 130, dry skin. I soon discovered an acute tonsillitis, with abscess, which I wanted to open, but was refused, as she had an almost insane dread of a knife. I did all else one could do; gave purges, antipyretics, quinine, iron, gargles, and liniments external, but of no use; neither did the abscess open, though it projected into the oral cavity like a finger. I gave her, and the husband, the full situation, spoke of impending heart trouble and its dangers, and after three days was finally allowed to evacuate the abscess. But too late. The endocarditis rapidly developed. That same day the patient complained of intense heart pain; temperature 104.5°, pulse 180, anxious, excited facial expression, capillary ecchymosis on the skin all over the body, in fact a characteristic case. It may interest you to know that the patient lived, and has ever since shown the vilest ingratitude for saving her life from a dangerous complication of a most vicious attack of rheumatic tonsillitis. It is not the object of this paper to exhibit the therapeutics of this affection, but rather to emphasize the importance, in relation to its serious complications. And one way to do this is to just observe the rank and file of the profession, how triflingly they treat this constitutional malady, mostly on the principle of a local affection.

It is to be remarked that local remedies palliate and relieve the patient, but contribute little to real cure.

When tonsillar abscesses are evacuated, we must remember that often, instead of having to deal with but one cell or pus depot, we have many, and each one must be opened separately or relief, so marked to the patient when thorough work is done, will not be experienced. Also, it will be well for novices in this work to remember that very often the abscess is not in the tonsil, but in front of it or behind it, and wherever found must be opened.

Now as to the second affection, namely, chronic tonsillar hypertrophy: We need but refer to our many experiences to note how many cases of hypertrophied tonsils we meet, principally in children between the ages of three and fifteen years, and even older. Also the many futile and senseless methods employed to reduce these redundant and troublesome organs, which are very annoying, take much of the doctor's time, many visits of the patient to the doctor's office, and yet, outside of reducing a little inflammation and tenderness, little or nothing is accomplished. The application of silver nitrate, of iodine, either on the surface or injected into the tonsils, the application of iron in its various forms, the many gargles, sprays, nebulæ, the application of acetic or hydrochloric acids, or Gleitzman's method of trichloracetic acid, the use of the actual or galvano-cautery, or the Paquelin; all these are useless, worse even, often painful and tedious, which bring the profession of medicine but into disrepute. Then what shall we do? Only one thing. Remove the tonsils—all you can get of them—and both of them, if both are diseased. True, most hypertrophied tonsils begin to show signs of atrophy at about the thirtieth year, but who wants to have his children suffer and undergo the dangers and discomforts incident to this affection during the most interesting and important period of existence?

Most of these cases, when existing for some time, soon develop nasal or nasopharyngeal catarrh, with its attending bad breath, mouth breathing, idiotic stare, prominent nose, which soon assumes a deformity, pigeon chest, so-called shoulder stoop, deviation of jaws and teeth, shallow breathing, to say nothing of the disagreeable nose blowing, hawking, spitting, sputtering and expectorating, not only annoying to the patient but to all he or she may come in contact with. Indirectly this affection, on account of its open-mouth and other reasons, may lead to the acquirement of phthisis, destroy an otherwise good voice, which might have been sweet and musical, and invite many exacerbations of acute throat troubles, such as tonsillitis, pharyngitis, to say nothing of an always open avenue for the entrance of the germs of diphtheria, the easy acquisition of colds, bronchitis, and even pneumonia from the inhalation through the mouth of raw air, especially in winter and early spring, which Nature designed should pass through the nasal passages only, and thus keep them in the proper healthy condition, which they can do only when alternate currents of cold and warm air pass through them, for they were built that way.

When this array of symptoms, sufferings, dangers and diseases is brought before the patient, or parents, they will scarcely hesitate in allowing you to perform this simple, and almost painless and practically safe operation, which not only immediately relieves the sufferer, but will never, or seldom ever, trouble him again.

The best way to accomplish this is with a tonsillotome, of which there are many good ones on the market now, for a nominal price. Inject the tonsils with a few punctures of cocaine solution, from 4 to 10 per cent. strength. There is little danger, in fact none worth taking into account, because the injected area will soon be removed and with it the medicine. This will make the operation painless, and since the drug is a good hemostatic will also prevent any serious bleeding. Some bleeding should be encouraged, as it reduces inflammation and relieves pain. To those who are afraid of cocaine I would heartily recommend nirvanin, which is practically non-poisonous. In case too much bleeding is feared, a two-ounce mixture of water and glycerine, in which a dram each of tannic and gallic acids have been suspended, may be at hand, from which applications to the bleeding surface can be made, and the balance given to the patient, from which he can sip and swallow, or gargle, every fifteen or thirty minutes, to control further bleeding.

Of course, some assistant should steady the patient's head, place a finger opposite each tonsil on the outside, and a little pressure from his finger will bring the tonsil into good view. Where the patient is an adult or old enough, I prefer an ordinary, blunt-pointed tonsil knife and forceps, for much more intelligent work can thus be done. Of course there is still some prejudice left that, if this operation is done in children before adolescence, it will prevent the development of the reproductive organs, but this is all nonsense, and not one instance is on record that will substantiate such an assumption. The dear people need not be afraid of doing mischief to reproductive organs, when the greater part of adult life is spent in thwarting the functions of these same troublesome members. When the patient is an adult of some years, and one suspects atheromatous arteries or otherwise non-elastic vascular tissue, the surgeon must be on the lookout for free hemorrhage, which might prove dangerous, unless you are prepared for hemostasis; yet I took the risk several times, in one case a woman of fifty years, and on no one was there any material trouble. Of course not many adults present themselves with this ailment; most of my patients, on whom I have operated, are children between the ages of three and fifteen years, a few younger and a few older, which should have been operated on long ago.

Only relief, cure, full and permanent, which is usually gratefully remembered by the sufferer, follows this radical procedure.

To illustrate what mischief old pus tonsils may do to their possessor, I remember a young woman who came to me with hypertrophied tonsils, retro-nasal catarrh, catarrhal deafness, a very rapid heart, and a slightly elevated temperature. Refusing the removal of tonsils, I instituted the usual shilly-shally office treatment, hoping after she learned to trust me she would finally allow me to operate. In spite of two months' treatment with local applications, spray for catarrh, some constitutional remedies for the tachycardia, and temperature rise, I gained so little that I refused further treatment unless I could remove the cause of all mischief. Besides, some of her mother's people were phthisical, and I was afraid the infected tonsils might eventually infect the apices of her lungs. I removed both tonsils radically; they contained old, cheesy pus cavities, which connected with the connective tissue, adjacent tissue avenues following the large vessels down into the chest. She made a rapid recovery, improved in hearing, stopped mouth breathing, temperature and pulse soon became normal, appetite, digestion and assimilation increased, and in three months she had gained thirty-four pounds, and her health has ever since been good. In this case the pus tonsils kept her circulation poisoned, thus abnormally increasing the temperature and heart movements. I could cite many more cases to illustrate both diseases here discussed, but these

will suffice, as your own experience will supply you almost daily with similar cases.

The only objection that could be urged against the radical procedures I have here emphasized is they cure your patients too soon, thus diminishing your practice and the income derived from long, tedious, office treatment. In closing I will just say, "beware of auto-intoxication"; reduce the facilities for this dreadful occurrence, and thus save life and suffering.

TYPHOID FEVER FROM A PHYSICIAN'S NOTEBOOK.

BY DR. M. S. SHELLENBURG, PHILADELPHIA, PA.

The cold bath treatment does not diminish the occurrence of perforation and hemorrhage, but at the same time it does not increase their occurrence, although it has been asserted by some that the tub bath treatment is followed by an increase in the number of hemorrhages.

Antiseptic Treatment.—The way in which this treatment is supposed to cure is by the administration of medicines to destroy the bacilli which are responsible for the disease. The administration is by the mouth, these medicines only having their action on the intestinal tract itself, and not going any further. The first and oldest drug on the list is calomel, as it is one of the best antiseptics. At one time it was given in five to seven-grain doses every hour until the stools were produced. At the present day many physicians start the Brant bath treatment with a dose of calomel to clear out the intestinal tract. Chlorine water may be used, a solution being made of the strength of thirty-six grains of quinine in twelve ounces of chlorine water, and an ounce of this solution is given every three hours. Salol, fifteen to thirty grains a day in divided doses, is highly recommended. Also beta-napthol, five to ten grains three times a day, and naptholene. A mixture of one part carbolic acid to two parts iodine, given in drop doses, will be found efficient.

Dr. Woodridge claimed that a man suffering from typhoid fever could take treatment for it while going about, tending to his business. During the late Cuban war he was given a chance to substantiate his assertion, with very serious results. Still another way of treating this disease antiseptically is by means of antiseptics injected into the abdomen, they being supposed to kill the bacteria. This treatment is of little use, as the bacteria are in the blood of the individual.

With regard to the use of alcohol in typhoid fever, some physicians recommend its use from the very beginning, but it is better to wait until some stimulant effect is made necessary by the growing weakness of the patient, or perhaps it can be started a little earlier than that. As the adynania increases, give half an ounce of alcohol every hour, or an ounce every two hours. A little whiskey and water may be given just before or during the bath, not only for its physiological effect, but also for the moral effect it has upon the patient, as it diverts his attention and gives him the idea that you are doing something for him.

The convalescence of the patient is a most important step, as more deaths have resulted from imperfect treatment during the convalescence of typhoid fever than from the disease itself. Convalescence is established only when the temperature has reached the normal. It may be defined as the gradual recovery of the patient after the fever has disappeared. Six weeks should be allowed for convalescence, even the mildest of cases never getting around in less than that time. During the first week in which the temperature remains normal the patient should not partake of solid food. At the beginning of the second week he can be given a soft boiled egg or a raw egg in milk, as it is true of the egg as of the oyster, that the nearer it is to being raw the easier it is digested. The most desirable way to prepare the egg is to break it into a cup which has been heated as hot as possible in boiling water, when it should be shirred. Give the egg once, and, if nothing happens, give him another in a day or so, and then, if no fever occurs, he can have some well-boiled rice, covered with beef juice. Next he can have milk toast, and so on, one article after another, allowing a suitable interval to intervene between each article of food until certain that no bad results will follow. Of late years there has been a tendency to allow the patient solid food earlier than was formerly taught, and the physician who follows this practice *will,* sooner or later, be brought back to the old plan of treatment by some accident. After the temperature has remained normal for one week the patient should be allowed to sit up in bed, and at the end of the second week to sit up in a chair. It is to be remembered that intestinal ulcers heal very often long after all other symptoms have disappeared, except, perhaps, a slight elevation of temperature, and that such an ulcer may rest on thin peritoneum, and that this may be torn by such a simple act as the patient's reaching over for a book, when a peritonitis would ensue which would prove fatal.

More has been accomplished by the prophylactic treatment of typhoid fever than by the cure by protecting our streams and water supplies from contamination, and making our drainage perfect. Typhoid fever is most prevalent in cities in which the drainage is bad, and startling results are shown from statistics taken before and after perfecting the drainage in a city. As long as a privy-well has not become contaminated by the typhoid bacillus there is no danger of typhoid fever. This theory explodes the theory of auto-intoxication, which is that an individual may become a prey to the disease without coming in actual contact with the typhoid bacillus. The excreta is the contagion bearer and should therefore be thoroughly treated before being disposed of. Great care should be taken in protecting the permanent part of the bed, such as the mattress, and this can be done by spreading a rubber blanket or a mackintosh over the mattress. Ordinary boiling will destroy the germs in the bed clothing and linen of the patient; the stools, however, must be treated specially. Bi-chloride of mercury in the proportion of one part to five hundred of water is the best disinfectant for use in the country, but it will not do for the linen, as it stains the latter. In cities carbolic acid, one part to ten, answers the purpose best. Chloride of lime, one to twenty-five, has rather a pleasanter odor than carbolic acid. Whitewash, twelve parts unslacked lime to one hundred of water, is useful in the country, where it is most available. Sulphate of iron, a tablespoonful to a pint of water, has been used. The buttocks, anus and genitalia of the patient should be washed after the bowels have been moved, in a 1-2000 bi-chloride of mercury solution. Door knobs, clinical thermometers, etc., which have been handled, should be cleansed in a 1-1000 solution of the same.

—A special supplement to the German magazine, the *Kleiner Journal,* is to be published by a medical editor, with the title *The Kleiner Journal f. Hygiene.* The purpose is not merely to disseminate a knowledge of hygiene, but to educate the public in regard to quacks.

RETROSPECTIVE THERAPEUTICS.

Diphtheria Antitoxin Used Successfully by the Mouth.—W. Campbell M'Donnell, M.R.C.S., England., L.R.C.P., London, reports the following case to the *Lancet:*

It being thought that the antitoxin of diphtheria must, for successful exhibition, be hypodermically injected, the following may be useful:

A girl, aged fourteen years, having both tonsils covered with a soft, white pellicle, and with no symptoms but a sore throat, very slight enlargement of the related lymph glands, and a temperature of 38.2° C., at 11 A. M., on November 12, 1900, was given 1,500 units of antitoxin by the mouth, on the second day of the illness. The antitoxin had been issued by Burroughs & Wellcome, in the dry state, and was twenty months old. One patch yielded the diphtheria bacillus, as was certified by the medical officer of health. Within twenty hours of giving the antitoxin, the right tonsil was quite clear. No application was made, nor was any gargle used, to the throat. On the third day there was no pellicle to be seen, and at 1.30 A. M. the temperature was 35.8° C. On the tonsil which was at first the most affected was seen a slight recurrence of pellicle. For this another 1,500 units of the dissolved dry antitoxin were given by the mouth. She recovered uneventfully, and as quickly as possible.

In an earlier case, where the struggling, on attempting to hypodermically inject the antitoxin of diphtheria, made that method impracticable, the antitoxin was rectally injected. The benefit was equal to that in the case described above. In this case diphtheria was not bacteriologically proved, but clinically it was certain.

Psychotherapy of Pain.—Oppenheim (*Therapie Der Gegenwart,* March, 1900) believes that pain, occurring in an extremity or circumscribed nerve area, is often designated as neuralgia, while more frequently it is of a psychogenetic origin, due to neurasthenia, hysteria, or hypochondriasis. As these varieties of pain have, up to the present time, defied various therapeutic measures, it is worthy of mention that the author claims to have cured several cases by psychotherapeutic means. By systematic exercises he causes the patient to neglect the pain emanating from the affected area, in that the patient concentrates his or her entire attention upon some object, like the ticking of a watch. If this fails, the patients are taught to direct their attention to two areas —one near the seat of pain, the other at some distance from it. The author claims, by these procedures, to have established insensibility in the former painful areas.

Sodium Permanganate in Phosphorus and Morphine Poisoning.—Potassium permanganate has been proposed as an antidote for these poisons, the effect depending upon the powerful oxidizing action of the salt. Since large doses of potassium salts are toxic, the remedy cannot always be used in sufficient quantity, and for this reason Schreiber (*Apoth. Zeit.*) substitutes sodium permanganate. Experiments with animals showed this to be as effective as the potassium salt, and applicable without danger in larger doses. The author recommends, in cases of poisoning by phosphorus or morphine, to irrigate the stomach with 0.2 per cent. solution, and to leave at the end a pint of the solution in the stomach.

Lactic Acid as a Remedy for Baldness.—Balzer practices friction of the bald part daily with a 30 per cent. solution of lactic acid until the skin becomes inflamed. Then the treatment is suspended for a few days, and resumed when the inflammation has subsided. He reports that he has often observed a new growth of hair in the course of three or four weeks.

Ammonium Chloride by Inhalation.—Dr. M. M. Mew writes from the laboratory of the Army Medical Museum, Washington, D. C., to the *Therapeutic Gazette,* as follows:

"Some twenty-five years ago, during some laboratory work, it became necessary to add ammonia in excess to several beakers containing a certain solution in hydrochloric acid, and, as often happens in badly ventilated rooms, the laboratory was soon filled with the nascent salt in question. It occurred to me that that would be a much better way of exhibiting it therapeutically than the inhalers in common use, and not long after I suggested to a medical friend, who had a bad case of chronic bronchitis on his hands at the time, to make use of this nascent salt by filling the patient's room with it and requiring him to live in it, and thus to inhale it morning, noon, and night, until relieved. It was managed in this way: In a soup plate was poured, by guess, three or four ounces of strong sulphuric acid, and into a saucer (used to distinguish it from the acid container) was poured about two ounces of the strong ammonia, and immediately there was sprinkled upon the acid about a tablespoonful of common salt. In less than a minute the room was full of a dense cloud of the nascent salt, which was kept up for days by needed renewals of the charge. The patient made a rapid and permanent cure." Since this beginning, the process has been in use here by a number of physicians, and the results have been surprising. During the twenty-five years that have elapsed since this first success, the writer has received hundreds of letters—asking for written instructions, or thanking him for this mode of utilizing a very valuable drug. Results beyond expectation have been reached by its use in other directions. One well-known doctor always uses it in asthma, with great benefit, in the majority of cases. Another has used nothing else in whooping-cough for more than twenty years, and invariably with success. An apparently desperate case of phthisis, with an almost unbearable stench from a cavity in the lungs, was cured in a few weeks, and today the patient's photograph shows him to be "a second Sandow, now a professional baseball player."

"When we consider that the nascent ammonium chloride is in a state of almost infinite division, it must be clear that the amount of the salt inhaled from an inhaler, as generally used, could only be successfully weighed upon a delicate balance, and it is not at all surprising that the inhaler is seldom heard of now. But where the inspirations are carried on for hours, days, and, in bad cases, for weeks at a time, the case is different and success certain—in chronic bronchitis and in colds, after the acute stage has passed."

The Dangers of Salad.—Lobster salad has been reprobated to the extent of becoming the opprobium of dietetics, says the *Medical Age.* Salads undoubtedly often partake of the attributes of mysticism. Now comes Professor Caresole, who describes, in *Il Policlinico,* all the bacteria he has discovered among the green vegetables largely used by the poorer classes in Italy. Among them were B. typhosus, B. septicus, and B. tetanus. The dangers of unwashed vegetables are, in fact, very great. It is interesting and useful to know that soaking the lettuce or endive for half an hour in a 3-per-cent. solution of tartatic acid not only renders these vegetables safe, but also improves their qualifications for the composition of salads.

The Medical Times.

A MONTHLY JOURNAL

OF

Medicine, Surgery, and Collateral Sciences.

EDITORS:

EGBERT GUERNSEY, M.D., LL.D. ALFRED KIMBALL HILLS, M.D.

Communications should be addressed to the MEDICAL TIMES, 180 West Fifty-ninth Street, Central Park South.
Published on the first of each month.

Changes of standing advertisements and communications in regard to that department, should be addressed to the Advertising Manager, BENJ. LILLARD, 108 Fulton St., New York.

NEW YORK, MAY, 1901.

"It is a fair, even-handed, noble adjustment of things, that while there is infection in disease and sorrow, there is nothing in the world so irresistibly contagious as laughter and good-humor."—DICKENS.

AN IMPORTANT LESSON.

THE recent death of Dr. William N. Guernsey, the peculiar circumstances attending it, and the lesson it inculcates, call for more than a passing notice. The city was startled on the morning of the 9th of April by the cry of "extra," which told in headlines covering nearly the entire page the death, by suicide, of Dr. William N. Guernsey, one of New York's most popular physicians. The body had been found at 6 o'clock in the morning, in a vacant lot five miles from his home, with a bottle of carbolic acid by his side. Dr. Guernsey's professional life had been a peculiarly fortunate, happy, and prosperous one. Graduating at the head of his class in the New York University, after serving as interne in one of the large city hospitals, and spending a year in Berlin and Vienna, he entered upon the practice of his profession in this city with such success that at the time of his death, at the age of fifty-two years, his clientele was one of the largest and most influential in the city. Sympathetic in his nature, faithful and conscientious in the discharge of his duty, he won the affection of his patients as a skilled physician and a trusted friend. With an ample income from investments, as well as from his profession, with a happy home, a cultured mind, and a bright, sunny nature, no one who knew him in his profession or among his patients for a moment believed that he deliberately ended his life.

About six weeks before his death he was confined to the house for a few days with an attack of grip, which left him, as nearly all have been left this winter from the same trouble, depressed in spirit, and with great physical weakness. The condition of his nervous system was such that he was greatly in need of rest. From a mistaken sense of duty, thinking more of his patients than of himself, he resumed his professional duties too soon, and continued his work when he was entirely unfit for either physical or mental labor, and often returned to his house at night so exhausted that sleep was impossible. Feeling as he did, the exhausting effects of the grip, increased by overwork, he never expressed, either directly or indirectly, any intention or desire to terminate his existence. Prescriptions made on the night of his death showed that his judgment was as clear and his grasp on his cases as accurate as when he was in perfect health. When he started on his route Monday evening he complained of a severe pain at the base of his brain, and weakness of the heart's action. He feared he was on the verge of a complete breakdown, and the end showed that his fears were justified. His last call was at the Hotel San Remo, and as he left the hotel, at half after eleven o'clock, he said he would go home, and hoped he would get some sleep, which he very much needed. He was not seen again until his body was found several miles away, at 6 o'clock in the morning, dead. It is evident when he left the hotel, ill and exhausted, in a dazed condition, he took the car northward instead of towards his home. When he left the car he wandered about in a partially unconscious condition, until, exhausted, he took from his pocket, as he supposed, a flask of whisky, which was found on his person, but instead, by mistake, a bottle of carbolic acid, and, turning the contents into a glass, which was also found by his side, put it to his mouth. As the tongue recognized the taste, like lightning there passed through the mind the full realization that he was taking poison; the shock was so great, and so instantaneous, that the beats of the already weakened heart were silenced forever. When found, the body lay in an easy, natural position. There was no indication, on the ground, in the limbs, or in the face, of a struggle, which would have preceded death from carbolic acid. The face alone wore that expression of great mental agony which would have been natural under the circumstances. On his person were found his medicine and hypodermic cases, each containing poisons more active than carbolic acid, producing no pain, in sufficient quantities to kill a dozen men. Carbolic acid was a favorite remedy of Dr. Guernsey in a variety of diseases. He had used it during the evening, and it formed a part of his list of remedies which he almost always carried with him. It was undoubtedly taken by mistake, and the real cause of his death was not *poison*, but *shock* and *heart failure*.

The lesson taught by this sad termination of a valued life in its prime, when long years of usefulness might have been expected, is so plain and simple that it can be read by all. None should know better than the physician that there is an end to human endurance, and that no discharge of a hasty and often mistaken judgment of what he considers duty can atone for the useless sacrifice of a human life. As the Reverend Dr. George Clarke Houghton stood beside the casket covered with

flowers, whose purity and fragrance symbolized the life which had just passed from mortal to immortal, and repeated the poem, "Father, take my hand," which seemed so appropriate to the dead physician, every eye in the thronged rooms filled with tears, and the air vibrated with sobs.

"FATHER TAKE MY HAND."

"The way is dark, my Father! Cloud on cloud
Is gathering thickly o'er my head, and loud
The thunder roars above me. See, I stand
Like one bewildered! Father, take my hand,
And through the gloom
Lead safely home
Thy child.

"The way is long, my Father, and my soul
Longs for the rest and quiet of the goal;
While yet I journey through this weary land,
Keep me from wandering. Father, take my hand;
Quickly and straight
Lead to heaven's gate
Thy child.

"The path is rough, my Father! Many a thorn
Has pierced me, and my weary feet, all torn
And bleeding, mark the way, yet Thy command
Bids me press forward. Father, take my hand,
Then safe and blest
Lead up to rest
Thy child.

"The cross is heavy, Father! I have borne
It long, and still do bear it. Let my worn
And fainting spirit rise to that blest land
Where crowns are given. Father, take my hand;
And reaching down
Lead to the crown
Thy child!"

RELATION OF THE PUBLIC TO THE PROFESSION.

A SYMPOSIUM in which the relation of the public to the medical profession was the subject, was held recently at the New York Academy of Medicine, Drs. Roosa, A. H. Smith, and A. Jacoby being the principal speakers. Dr. Roosa discussed the subject from the educational point of view, resulting in the conclusion that the individual, the public at large, and State governments ought to take a positive interest in medical science. The generous treatment of the medical profession was considered a good paying investment.

Dr. Smith blamed the medical profession for the situation, by failing to interpret scientific medicine to the public mind.

He claimed that "we have been content to develop our science by original investigation and by accumulation of clinical experience, and to keep the results to ourselves as if they have no interest for those without the pale, and this attitude on our part has been met by a corresponding attitude of the world at large. The world has outgrown the mental habits of the scholastic age, and refuses to accept important conclusions on the simple dictum of authority. It demands to be taken into the confidence of the schoolmen, and, at least, to have the compliment paid it of being thought competent to understand what it is asked to believe. In all other branches of science this is freely accorded.

"The utmost publicity is given to each new discovery, and the principles involved are fully discussed in popular language for the benefit of the public. Only in medicine is it considered unprofessional and undignified to give out anything to satisfy the interest of the laity in matters concerning which they are assumed to be incompetent of judging.

"A dead language, even, is employed in writing prescriptions. Consultations are conducted in secret, and conversation between medical men in the presence of a layman is veiled in technical terms, which are calculated to inspire him with awe, or, perchance, distrust.

"Popular writings or popular lectures on medical topics are frowned upon as ill-disguised attempts at advertising. It seems to be no concern of the profession that the public should have correct ideas in regard to medicine, or, in fact, any ideas at all.

"Contrast with this the methods of, for example, Christian Science. Here all they have is fully discussed, the only trouble with them being that there is so little of it. If they had more, they would tell more. Their candle is not hid under a bushel, but put upon the highest candlestick they can command. Their principles, such as they are, are open to inspection, and many people imagine that they find them sufficient and conclusive. There can be no doubt, at all events, that they are thoroughly interpreted by those who stand for them."

Dr. Smith thinks that this open discussion appeals more strongly than the shadowy glimpse vouchsafed by legitimate medicine, and the obligation rests upon the profession to organize a new departure, in the shape of papers and lectures in popular language, in order to bring the profession and the public into mutually helpful relations, to the relief of misapprehension and scepticism. He thinks that the world has a right to know what progress we are making, as well as the uncertainties which remain, to be given them in a frank, open manner, in order to command their confidence and lead the way to greater liberality of feeling, and a more complete fulfilment of the duty which the public owes to the medical profession.

We are inclined to agree with Dr. Smith's deductions, providing what he proposes can be done in a perfectly ethical manner. If it is done for the purpose of obtaining practice, then it will be objectionable. It is more the manner than the doing, that will have to be looked after. If the discussion of the subject is to be stopped here, nothing will have been gained by its introduction.

We would suggest that a series of popular lectures

be instituted under the auspices of the Academy of Medicine, with a view to carrying out in a practical way, the points so ably presented in these papers. If the rooms of the academy are inadequate for the number who would desire to attend, no doubt arrangements could be made with the Academy of Natural History for the use of their ample quarters, but it could be started, at least, in the larger hall of the Academy of Medicine.

MEDICAL LEGISLATION.

ACCORDING to the law introduced into the last legislature of Wisconsin the path to matrimony is hedged with difficulties which in many cases will not be easy to overcome, and may require a certain amount of bribery, misrepresentation and falsehood before the end is obtained. A doctor's certificate must first be secured, which must first show, before a marriage license can be had, that the applicant is in good health, of sound mind, and free from any hereditary taint of insanity or imbecility or epilepsy. Several important questions arise in considering a law of this kind; one is, Of what practical use would it be, unless made binding in every State in the Union? It would be perfectly easy to evade its provisions by crossing the line and having the knot tied in another State. Then would arise other questions, somewhat difficult to determine, as, What is insanity, and in what cases might there be any hereditary transmission, and to what degree must the mind be enfeebled to come under the restraining hand of the law? Theoretically, the law might be perfectly good, but practically all wrong, as in only a limited number of cases would it be possible to carry out its provisions. It might, and probably would, be used as a weapon of personal spite, unless its provisions were sharply defined, creating any amount of social disturbance and bitter antagonism. Is there not a better way of reaching the desired end by home training and the presentation of those hygienic and physiological truths which would form an important part in the elementary education of every pupil? Must the law of heredity, if it can be called law, be like that of the Medes and Persians, unchangeable, but may it not, so far as disease is concerned, be abrogated by a higher mental training and a physical development based upon the harmony of the whole being. Does it not, in a great measure, rest upon the individual to so live that any seeds of disease which might have been transmitted shall perish under the stronger influence of an increased vital force, obtained by a careful observance of the laws of health?

We have often thought the public would be a gainer if its law-giving bodies were to meet once in three years instead of every year. Laws would be more carefully considered, and that everlasting changing and remodeling, which is the curse of hasty political legislation, avoided. This is illustrated in the tinkering of our city charter. A very short time ago New York had a new charter, the defects of which are now so apparent as to render a revisal necessary. The revised charter is so sharply criticised by the mayor and the public press that it is sent back to the legislature, to be amended, before it can become a law. The great trouble is in the original cast of the act. Certain evils are considered and, perhaps, remedied, but in such a loose and illogical way as to render the whole ineffective and harmful. The fault is even more apparent in medical legislation than in any other, for in this party and purely selfish considerations enter more largely into the contest.

A bill was introduced into the present legislature aimed principally at the placing of Osteopathy and so-called Christian Science under that proper restriction which would contribute to the best interests of the public, but was so defective in its construction as to produce an immense amount of discussion, and its final failure. A simple amendment, such as suggested by Dr. Julius A. Ward, of this city, would have probably satisfied the profession and the public as being just to all. Dr. Ward has embodied the various forms of manipulation, including Osteopathy, under the head of Somatophy, which lays no claim to a system of medicine, but is simply, like surgery, a department of a great system, which includes every means known to science for the relief and prevention of disease, to be utilized by specialists and the general profession.

Dr. Ward's amendment is that every one practising this specialty shall have passed two years in a medical college and shall have dissected at least one body and have received a certificate from Regents of the State. Of course, the line of study would be specially in anatomy, physiology, histology and hygiene, and will place the specialist in intelligent harmony with the entire profession.

Another instance of hasty legislation is illustrated in the constant tinkering and change in the law regulating the Department of Charities and Correction. Formerly this department was under the direction of a Board of Governors, which, of course, was more or less political in its composition. In process of time, the law was changed and the department placed under the care of three commissioners, and again changed with the formation of the charter of Greater New York to one commissioner for each department. This last change worked so admirably that the end of tinkering was supposed to have been reached, so far as the Department of Charities and Corrections are concerned. But, no; with the revised charter comes another change, the separation of the Bellevue department from the other great charity city hospitals, where it naturally belongs, going back to the old Board of Governors, which was found so objectionable as to warrant its abrogation and the establishment of the present system, and so the wheels turn backwards and forwards, ever changing, one experiment after the other, while the thoughtful public, who pay the bills and suffer from this unwise legislation, shrug their shoulders with an air of helpless resignation, murmuring, "O Tempora! O Mores!"

CLOSING OF THE PATHOLOGICAL INSTITUTE.

LONG-STANDING differences of opinion between the State Lunacy Commission and Dr. Ira Van Giesen, the director of the Pathological Institute of New York State Hospitals, as to the proper lines of work for the Institute, have resulted in a notification to Dr. Van Giesen that the Commission will dispense with his services after the 1st of May. It is said that Dr. Van Giesen's health is not strong. The whole staff of the Institute, seven persons, uphold the work of the Institute, and threaten to resign in a body if Dr. Van Giesen is forced out. The Commission complains that the Institute has failed to make its work sufficiently available and valuable, in a practical way, to the State hospital service.

It has devoted itself almost entirely to research work, the study of morbid anatomical specimens, and the writing of reports, work which the Commission admits is valuable, in its own way, but not of immediate value in developing the remedial work in the State hospitals. The Commission holds that much more time should have been spent in the study of patients actually confined in the hospitals, so that cures might be expedited; and it is pointed out that the small number of students at the Institute from the State hospitals—there are but thirty students—shows in itself the excessively theoretical character of the work.

Dr. Van Giesen and his associates resent what they call an attempt to turn the Institute into a "mere school," subordinate to the Commission, and assert that the work of the Institute is of great value to the State superintendents and staffs of the State hospitals.

Very likely the hospitals have not availed themselves of the instruction of the Institute as much as was anticipated, but the fault was with the hospitals, not with the Institute, and the closing of its doors will be a matter of general regret.

HOUSE CLEANING.

EVERY good housewife, once a year, generally in May, goes through her house from cellar to attic, with duster and brush, and paint and varnish, removing rubbish, cleaning out dark corners where the dust has lodged, overhauling the bed rooms, shaking the carpets, polishing the floors, and touching up the walls and furniture, so that the whole house is clean and fresh as if it just came from the hands of the builder.

Would it not be a good idea to have a mental house-cleaning at least once a year, in which the phonograph, reproducing every modulation of the voice and every shade of the mind to see the uselessness of many a thought, the incompleteness and false logic of many an idea, the injustice and even groundlessness of many a bitter thought and antagonism of action, and the false foundation of many a trust and confidence, and recast the whole on the basis of justice, truth, and enlightened reason? Clean out the cobwebs from the brain. Infuse new life into the brain-cells. Think over, in the clear light of judgment, divested of passion, the old premises and the old line of reasoning, and see if the conclusions do not differ. See if many of the conclusions were not reached from the hasty influence of passion, from a misunderstanding of terms, and from other causes illogical and not worthy of the lasting conviction of unprejudiced reason, and, if positive and intentional wrong has been committed, may not that wrong be righted, or, at least, atoned for, by apology and a renewal of old friendship? No sense of humiliation should ever prevent the confession of a fault, or an earnest attempt to repair an error and come to a right understanding.

A large portion of the trouble in this world arises from a misconception of motives and a misunderstanding of terms. Eliminate these elements and more than half the troubles of life would vanish like mist before the rising sun. What is heterodox to-day may be orthodox to-morrow, simply from the reception of new light through the broad fields of thoughtful investigation, and a breaking down of the walls of prejudice by a better understanding of motives and terms. A harmonious spiritual philosophy is vibrating through the world, bringing us more and more in touch with the underlying principles of harmony, which form the basis of creation. To our brethren in the profession let us urge the wisdom of that mental house-cleaning, which will bring into active force the wiser and better elements of our nature.

ILLEGITIMACY IN PORTO RICO.

FROM the report of the Board of Health of Porto Rico, the legitimate living births on the island numbered, in one month, 845, and the illegitimate, 633, or very nearly as many. The still births numbered 107, and the total deaths were 4,001, or 53.3 per thousand population. The marriages numbered 259. Some months the death-rate was greater, and the illegitimate children outnumbered the legitimate; 1,294 were under five years of age. There is no reason why, with the improved sanitation, the death-rate of the island may not be as low as any country in the world.

CHRISTIAN SCIENCE IN GEORGIA.

JUDGE LUMPKIN has denied the application for a charter for "The Atlanta Institute of Christian Science," the effect of his decision being that Christian Scientists cannot practice their treatment of diseases in Georgia without having been regularly graduated in medicine or having passed an examination before the medical examining board, as other physicians do.

Judge Lumpkin holds that, according to the decision of a case in the Supreme Court of Nebraska, Christian Science is the practice of medicine, and that the practice of medicine in Georgia, according to the State law, can only be by persons who are regularly graduated from a medical school.

The same decision will probably be reached in other States, at least it would seem reasonable that it should, if the subject is properly presented.

DR. JACOBI'S JUBILEE.

DR. ABRAHAM JACOBI recently celebrated the fiftieth anniversary of his graduation in medicine, in a reception at the Academy of Medicine, in which he was the host. The occasion was attended by a large number of Fellows, and the greetings on both sides were most cordial.

Dr. Jacobi entertained his guests with a paper, entitled "German Text-Books Half a Century Ago; History and Reminiscences," which covered the leading events of his medical career, as well as medicine in general.

The impress which Dr. Jacobi has made upon American medicine is well-known and fully appreciated, and his splendid gifts and attainments are recognized by the profession. THE TIMES desires also to extend its hearty congratulations and best wishes.

DIVISION OF FEES.

THE subject of fees, as referring to the relations of the specialist with the general practitioner, was discussed in these columns some months ago, at the request of Dr. Emory Lanphear ,and it will be remembered that we entirely disagreed with the views of Dr. Lanphear in respect to this question. The profession generally has accepted the views we expressed, and the subject has been warmly considered in some localities.

The *Cleveland Journal of Medicine*, in a recent issue, proposes a radical remedy for existing conditions, which is not only novel, but appears to be logical, and, in the opinion of its author, is inevitable. It is proposed, as nearly as we can remember, that a conference be had between the patient, or his representative, the attending physician, and the consultant, for the purpose of determining and agreeing upon the amount of the fees, and as to how they shall be divided. We can see no objection to the proposition, but we do not believe it will be practised to any considerable extent, especially in the cities, where the general practitioner is better paid than in the rural districts.

No doubt instances will arise where this plan will work admirably for all concerned, saving perplexing questions, and perhaps litigation. It will undoubtedly affect the interests of the patient favorably, by influencing the amount of the fee to be charged in a given case.

The initiative in such a matter must be taken by the attending physician.

We hope the plan may be tried in cases where it seems to fit, and the result reported.

BOTTLED DISEASES.

A VISITOR at the army medical museum, at Washington, will find nothing more interesting, especially if he is a physician, than the bottles which contain, sealed up, for immediate use, the germs of nearly all the diseases fatal to human life. Among the great variety are the germs of tuberculosis, pneumonia, typhoid and yellow fever, Asiatic cholera, diphtheria, blood poisoning, erysipelas, and almost every other disease of which the germs have been discovered. The germs which the government keeps thus bottled in convenient form are all obtained from actual diseased tissues of patients afflicted with the complaints. To propagate the germs in any quantity from these tissues is easy enough. Vegetable gelatine, from a Japanese plant called agar-agar, is boiled and mixed with beef tea, so as to form a soft, transparent solid. A small quantity of this is put into a tube tightly corked with cotton. The tube is then placed in an oven, and heated until all the germs in it, of whatever sort, are killed. Next the tube is briefly uncorked, and a long steel wire, that has been heated also to sterilize it, is dipped in the germs of the disease which it is desired to cultivate, and scraped across the surface of the gelatine. The tube is now recorked and permitted to stand for a few hours, at the end of which the bacteria of the disease, having found the gelatine to their taste for feeding upon, will have multiplied enormously, so as to cover the surface of the gelatine. Then the germs are ready for the purpose for which they are kept at the museum, namely, to enable the physician to make experiments to determine the proper method of treating the disease and to seek remedies for it.

DR. GOULD'S JOURNAL.

THE new weekly journal, edited by Dr. George M. Gould, has made its appearance, and in every respect is a continuation of his work upon the *Philadelphia Journal*, which is well known. It does not seem possible that two journals of this class can flourish, but that remains to be seen, and we look for the "survival of the fittest."

PERMANGANATE OF POTASH AN ANTIDOTE TO OPIUM.

THE demonstration of Dr. Moor, of New York, in 1895, of the power of permanganate of potash to oxidize morphine or opium, when brought in contact with it, rendering it insoluble and, therefore, harmless, by taking a poisonous dose of morphine and following it with a solution of from three to four parts of the permanganate to from two to three parts of the morphine, without any bad results, has been the means of saving many lives. If the amount of the narcotic taken is unknown, a 1 per cent. solution of the permanganate should be given in tablespoon doses, or, if given hypodermically, 50 grains in 20 of water, a syringe full at a time. This is the better course, if the narcotic has begun to produce its specific action.

THE UNIVERSAL PRESENCE OF TUBERCULOSIS.

DR. OTTO NAEGELI has founded his statistics bearing upon this subject and published in the 160th volume of *Virchow's Archiv.* (*Med. Review*) on a series of 500 consecutive autopsies made in Professor Ribbert's Pathological Institute at Zurich.

A most careful search for tubercle was made in each case, at first macroscopically, and, if this failed to reveal disease, microscopically. The result was astonishing: 97 per cent. of all the adults over eighteen years of age that die in the Cantonal Hospital at Zurich were found to be tuberculous! Further, Dr. Naegeli thinks he is justified in applying this figure to the general population, because the death-rate from tuberculosis among the patients in the Zurich Hospital is little above that of the general population of the town, and the latter would undoubtedly have been higher if a necropsy had always been made.

Dr. Naegeli divides his series into cases presenting foci of active tuberculosis, cases in which the tubercles had healed, and cases in which it was doubtful whether the process was active or not. With regard to the second class, healed tuberculous foci are often revealed only by cicatrices or pleural adhesions, and as it is often difficult or impossible to decide whether these are of tuberculous origin, their classification depends on the individual judgment of the pathologist. Even allowing for any possible mistake in the classification of old fibrous changes, Dr. Naegeli's figures seem, at first sight, appalling. A little consideration, however, shows that they are encouraging, because, though practically every adult is tuberculous, only a seventh to a sixth of the population falls a victim to the scourge. The great majority of mankind is able, unaided, to resist the disease, and many others are enabled to do so when assisted by rational treatment.

Dr. Naegeli's interesting statistics bring out many other points of great importance: In the first year of life, tuberculosis is exceedingly rare; from the first to the fifth year, it is still rare, but is nearly always fatal; from the fifth to the fourteenth year, tuberculosis is found in a third of all bodies examined, and causes the death of three-fourths of those it attacks, while in the remaining quarter the process is still active, though latent. Betwen the fourteenth and eighteenth years, half the population has been infected with tuberculosis; the process is then always active and progressive, and is but rarely arrested. One-third of all deaths at this period is due to tuberculosis. Between the eighteenth and thirtieth years practically every autopsy reveals tuberculous changes, three-quarters of which are in an active stage; in the remaining, the lesions have healed. Two-fifths of all deaths are still due to tuberculosis. From the thirtieth year onwards the chances of finding active or fatal cases of tuberculosis steadily diminish, though the disease is almost certainly present in one form or another. Thus, in proportion as the active and fatal cases of tuberculosis diminish, those in which the disease has come to an end or is quiescent, increase, and the chances of cure rise, from near zero before eighteen to one-fourth in the third decade, to two-fifths in the fourth, and to three-fourths at seventy. These facts are very strongly against Baumgarten's well-known theory, that tuberculosis is generally congenital, but may remain latent for a number of years. In Dr. Naegeli's experience congenital tuberculosis is rare, and when it does occur it is fatal in early life. In late years it is exceedingly common. Hence, when the disease is observed after puberty, it usually must be acquired. It is clear, then, that no one is immune to the infection of tuberculosis. The most robust athlete, cut off suddenly by an accident, is found to harbor tubercle, as well as the anemic and flat-chested factory girl.

Incidentally, these statistics also show that there is no disease which is antagonistic to tuberculosis: The thirty-one cancer cases and the thirty-six cardiac cases, in the series, all showed concomitant tuberculous changes. Another interesting point brought out by Dr. Naegeli—though it has been observed by others—is that acute miliary tuberculosis tends to occur in epidemics. The theory that this form of tuberculosis depends on a chance ulceration of a vessel, and the eruption of the bacilli into the blood-stream, is, therefore, quite inadequate to explain all the facts. Some unknown factors must be concerned.

SENSIBILITY OF HIGHER PLANTS TO TOXIC SUBSTANCES.

THE revelations of chemistry within the past few years, especially in connection with physiology, have demonstrated the effects of very infinitesimal quantities of toxic substance, not only upon the human organism, but upon the higher forms of vegetable life. These scientific discoveries are leading to a better understanding of the phenomena of life and the causes of disease, and opening the way for a more rational treatment than that obtained in the materialistic age of the eighteenth century, and to nearly the close of the nineteenth.

A note has recently been presented to the French Academy of Science, by M. Henri Coupin, pointing out the sensibility of the higher plants to very small quantities of toxic substance, in a state of extreme dilution, and the almost infinitesimal quantity of such substances, even less than can be detected by chemical analysis, cause serious disturbances in the health of the plant organism. The most deadly substance discovered by M. Coupin was sulphate of copper, of which only one seven-hundred-millionth of its weight in water was sufficient to react upon plants disastrously. Bichloride of mercury came next in toxic effect, and was about twenty times less poisonous than sulphate of copper. One part of chloride of cadmium in ten million parts of water, and one part of nitrate of silver in one million parts, were found also deadly to plants.

GERMICIDE AND HEMOSTATIC.

DR. O. W. GREEN, of Chicago, uses one part hydrozone to five of hot water, by syringe or spray, in his hemorrhoidal work, as germicide and hemostatic. An ideal dressing is ordinary sterilized gauze, moistened with glycozone as a promoter of healthy granulation. Peroxide of hydrogen is susceptible of a wide range of application, and it should not be overlooked.

BIBLIOGRAPHICAL.

THE MEDICAL NEWS POCKET FORMULARY. New (third) Edition. Containing 1,700 prescriptions, representing the latest and most approved methods of administering remedial agents. By E. Quin Thornton, M.D., Demonstrator of Therapeutics, Pharmacy and Materia Medica in the Jefferson Medical College, Philadelphia. New (third) edition, carefully revised to date of issue. In one wallet-shaped volume, strongly bound in leather, with pocket and pencil. Price, $1.50 net. Lea Brothers & Co., Philadelphia and New York, 1901.

Books of this description have a legitimate field of usefulness. The best informed practitioner may at times forget an appropriate drug or a happy combination. The treatment of disease will often be more successful if the physician has at hand the collective experience of the leaders in the profession.

"The Medical News Pocket Formulary" is admittedly the best and most trustworthy of its class, and the only one which gives, under each prescription, full directions for use, and clear indications for the special phase of the disease to which the remedy is peculiarly adapted. Great care has been used to exhibit every drug with due regard to palatability and pharmaceutical elegance.

The prescriptions, of which there are over seventeen hundred, are arranged alphabetically under the various diseases. The rapid exhaustion of the first edition has given its author an opportunity to revise his work carefully and thoroughly, bringing it to the present date and adding all the newer drugs which have been proved worthy of use.

THE INTERNATIONAL MEDICAL ANNUAL: A Year Book of Treatment and Practitioners' Index. Nineteenth year, 1901. New York: E. B. Treat & Co. $3.00, pp. 615, octavo.

As we have said many times, this is one of the most useful and instructive books that reaches our table. It enables one to keep abreast the literature with little effort, and an important point is, that its bulk is not overwhelming. No library is complete without such a work. The text is prepared by some of our ablest men, and is to be depended upon.

NURSING ETHICS: For Hospital and Private Use. By Isabel Hampton Robb, Graduate of the New York Training School for Nurses Attached to Bellevue Hospital, late Superintendent of Nurses and Principal of the Training School for Nurses, Johns Hopkins Hospital, Baltimore, Md., etc. Cleveland: J. B. Savage, 1901, pp. 273, 12mo.

A useful book for the purpose intended.

THE TECHNIQUE OF SURGICAL GYNECOLOGY. Devoted exclusively to a description of the technique of gynecological operations. By Augustin H. Goelet, M.D., Professor of Gynecology in the New York School of Clinical Medicine, Fellow of the New York Academy of Medicine and of the New York Obstetrical Society, etc., etc. International Journal of Surgery Company, 100 William street, New York, pp. 340, octavo.

The purpose of this book is to describe operative technique exclusively, preparation for operation, and after-care of the patient. Only the method of the author is described, so there is no confusion, at least, in the selection. Much stress is laid upon the preparation of patients for operation, which is claimed to prevent many distressing symptoms.

The work is well illustrated, and should be in the hands of all abdominal surgeons.

THE TREATMENT OF FRACTURES. By Charles L. Scudder, M.D., Assistant in Clinical and Operative Surgery, Harvard Medical School. Second edition, revised and enlarged. Octavo, 433 pages, with nearly 600 original illustrations. Philadelphia and London: W. B. Saunders & Co., 1901. Polished buckram, $4.50 net.

This book is intended to serve as a guide to the practitioner and student in the treatment of fractures of bones, being a practical statement of the generally recognized methods of dealing with fractures. The attention of the student is diverted from the theories to the actual conditions that exist in fractured bones, and he is encouraged to determine for himself how to meet the conditions found in each individual case. Methods of treatment are described in minute detail, and the reader is not only told, but is *shown*, how to apply apparatus, for, as far as possible, all the details are illustrated. This elaborate and complete series of illustrations constitutes a feature of the book. There are nearly 600 of them, all from new and original drawings and reproduced in the highest style of art.

The exhaustion in a remarkably short time of a large first edition indicates the favor with which this work has been received. From the day of its issue it has been accorded the highest possible praise, as being the most practical and useful work on the treatment of fractures that has ever been issued. In this edition the book has been thoroughly revised. Many X-ray plates have been reproduced to assist in familiarizing the reader with the study of such plates. Physicians should be able to interpret X-ray plates without the assistance of an expert. Numerous other new illustrations have been added, and the book has been considerably enlarged.

TRANSACTIONS OF THE AMERICAN DERMATOLOGICAL ASSOCIATION at its twenty-fourth annual meeting, held in Washington, D. C., May, 1900, in connection with the fifth triennial session of the Congress of American Physicians and Surgeons.

A SYSTEM OF PRACTICAL THERAPEUTICS. By Eminent American and Foreign Authorities. Edited by Hobart Amory Hare, M.D., Professor of Therapeutics, Jefferson Medical College; Physician to Jefferson College Hospital, etc., Philadelphia. New (second) edition, thoroughly revised. In three very handsome octavo volumes, containing 2,593 pages, with 427 engravings, and 26 full-page colored plates. Per volume, cloth, $5.00 net; leather, $6.00 net; half morocco, $7.00 net. Lea Brothers & Co.

The great success achieved by this work in its first edition demonstrated its particular adaptation to the requirements of practising physicians, those who are well enough posted themselves to realize that constant improvements are being made in treatment which it behooves them to use for their own and their patients' benefit.

No part of medicine is developing so fast as the apex, the end, aim and object of it all—namely, the best thing to be done, or practical therapeutics, whether non-medicinal means are to be employed or medicines in their best combinations. This work covers all and tells all in the best and plainest manner, with full details and pre-

scriptions for all contingencies. The advances aforesaid are represented to the latest date in this new edition, which is well worth its value to owners of its predecessor and is indispensable to all who would be thoroughly equipped with an authoritative guide and complete reference book on practical medicine.

The Surgical Volume tells the general practitioner how to do and perform everything in a surgical way that he is likely to meet and how to conduct the post-operative treatment in cases which have required a surgical specialist. Rich and instructive engravings and colored plates are introduced to illuminate the text whenever desirable.

Contents of Volume III.: Anesthesia and Anesthetics (new). By Charles Lester Leonard, M.D. Surgical Technique (new). By Charles H. Frazier, M.D. The Treatment of Fractures and Dislocations (new). By Henry R. Wharton, M.D. Minor Surgery and Bandaging (new). By George W. Spencer, M.D. Cerebral Concussion and Shock. By Joseph Ransohoff, M.D., F.R.C.S., Eng. Pleural Effusion and Empyema; Abscess and Gangrene of the Lung. By A. J. McCosh, M.D. Peritonitis, Non- Operative and Post-Operative, Appendicitis, Paratyphlitic Abscess, and Obstruction of the Bowels. By George Ryerson Fowler, M.D. Obstruction of the Intestines. By Edward Martin, M.D. Diseases of the Rectum and Anus. By Joseph M. Mathews, M.D. Therapeutics of the Male Genito-Urinary Tract. By William T. Belfield, M.D. Therapeutics of the Genito-Urinary Diseases of Women. By Edward E. Montgomery, M.D. Therapeutics of Pregnancy, Parturition, and the Puerperal State (new). By Edward P. Davis, A.M., M.D. Diseases of the Eye and Their Treatment by the General Practitioner. By Casey A. Wood, M.D. Diseases of the Ear and their Treatment by the General Practitioner. By S. MacCuen Smith, M.D. Diseases of the Nasal Chambers and Associated Affections. By E. Fletcher Ingals, M.D. Diseases of the Uvula, the Pharynx and Larynx. By D. Braden Kyle, M.D.

THE CIRCULATION IN THE NERVOUS SYSTEM. By Herman Gasser, M.D., 12mo, paper, pp. 156. Journal Publishing Company, Plattville, Wis.

The author of this little monograph has reviewed in an intelligent manner what is known of the functions of organic life, particularly that of the nervous system, and finds, or thinks he has found, evidence of the truth of an old dogma in physiology, viz.: That of a "nervous fluid"—a dogma long since abandoned.

No one questions to-day the fact that the nerve-cells are the source of vital energy, and of its correlative, mental and psychic energy; but it would be confusing to the understanding to think of any form of force as a fluid, or as having the power to circulate. Vibrations do not circulate under impulses, nor thoughts and ideas (unless printed), no more than does electric force or energy that is generated by a dynamo, circulate over the distributing or connecting wires.

The author says his faith in the stability of his hypothesis "has grown with increasing study," until it has become so firmly established in his mind that he ventures to "set it afloat," and he invites some one to "puncture" it and to send it to "the bottom of the sea," if found to be false. While we would not undertake to *puncture* a hypothesis, nor to *sink* one in the sea, we do not think it would take much mental "circulation" to show the author's fallacy in this instance, and to relegate it to the category of mistaken conceptions, or of sane delusions.

D. A. G.

HEALTH AND A DAY. By Lewis G. Janes, M.A. 12mo, pp. 185. Boston: James H. West Company.

This cleverly written and handsomely printed little volume "aims at a sane and rational treatment of the problems of health and the conditions of a normal and useful life"—to use the rather prolix verbiage of the author. The book is pleasant reading, as it does not unduly meddle with the speculative or abstruse. The author discourses in a pleasant way of things that concern the sanity of body and mind, and aims to be suggestive rather than to add anything new to the knowledge of that subject. But he does not always confine himself to plain or simple statements, as, for example, in this definition of health:

"Health, in the large and comprehensive sense, is precisely this voluntary conformity to and coöperation with the laws and method of the cosmic life—this orderly adjustment of internal relations to external relations, of organism to environment."

This sounds Spencerian, but it is neither Spencerian nor true—or rather, it is just as true of disease as it is of health. The conditions of our life must necessarily be in conformity to its environment. One might as well try to lift himself over the stile by the straps of his boots, or the seat of his breeches, as to try to live above his environment, or at variance with it. An abnormal environment produces abnormal physical and normal conditions. Ill-health is, therefore, quite as natural; that is, conformable to cosmic law, as good health. Good health may not, then, be adjusting one's self to cosmic laws. It may be just the reverse.

But, notwithstanding an occasional lapse of normal conceptions, the book is a good book and worthy of a place in the family library.

D. A. G.

MENTAL DISEASES AND THEIR MODERN TREATMENT. By Selden Haines Talcott, A.M., M.D., Ph.D., Medical Superintendent of theMiddletown State Homeopathic Hospital; Professor of Mental Diseases in the New York Homeopathic Medical College and Hospital. New York: Boericke & Runyon Co., 1901.

Dr. Talcott's work is the outcome of his lectures in the Homeopathic Medical College, where they were so popular that he has at last complied with the demands of the profession to issue them in book form. The work does not claim to be an extended text-book, but, avoiding minute details, deals practically with the various mental conditions, and their causes, which have occupied his attention as the head of what, under his care, has grown to be one of the largest and most successful hospitals for the insane in the world. One great charm of the work is the classic style in which his facts are presented, combining the easy flow and grace of diction of the novelist with the close logic of the trained scientist. Some of the chapters, especially the one on sleep, we shall be glad to see published in the form of a monograph for the general public.

VOLUME I., of the eleventh series of J. B. Lippincott & Co.'s "International Clinics," published quarterly, comes to us in the initial volume of 1901, more than usually freighted with carefully prepared articles in almost every department of our profession, from some of the ablest authors and teachers. Aside from the original articles, which cover 200 pages, 100 pages are devoted to a review of the progress of medicine during the year 1900, by N. J. Blackwood, M.D. No more valuable addition to the physician's library can be made than the yearly series of handsomely bound volumes.

A TREATISE ON APPENDICITIS. By George Ryerson Fowler, M.D., Professor of Surgery in the New York Polyclinic. Second edition, revised and enlarged. Philadelphia and London: J. B. Lippincott Company, 1900.

The second edition of this work brings the subject well up to the present time, in both pathology and practice. The chapters on Diagnosis and Differential Diagnosis will be found of special value, worthy of earnest study by surgeon and general practitioner alike. In the space devoted to Operative Treatment the author shows his originality of thought and purpose, and while one might differ with him occasionally in matters of technic, his ideas are set forth with the distinction of an experienced operator. In the matter of the abdominal incision, it is recommended that one of three methods be employed, depending whether the necessity for drainage will probably be evident; another in case the diagnosis is doubtful as to the appendix or the seat of the trouble, or when pelvic conditions complicate an appendicitis. For this last condition the writer offers his intermuscular method, which provides greater space for operation and exploration, at the same time reducing the liability of hernia to a minimum. In contemplating operation, the author gives most detailed instructions, from the preparation of the room to methods of sterilizing catgut, and nothing is lacking to make the book complete in every particular. The histories of many cases, illustrating almost every phase of the disease, is a very interesting feature. To the credit of the publishers, we miss the time-honored woodcuts which have done duty so nobly in almost every work on surgery, the illustrations in this instance being new, and in sufficient quantity. W. F. H.

A TEXT-BOOK OF GYNECOLOGY. Edited by Charles A. L. Reed, A.M., M.D., President of the American Medical Association, Gynecologist and Clinical Lecturer on Surgical Diseases of Women at the Cincinnati Hospital. Illustrated by R. J. Hopkins. New York: D. Appleton & Co., 1901.

Dr. Reed has brought to his aid, in the formulation of a text-book which embraces the most approved development of gynecology, as a working model for practitioners and students, some of the ablest specialists in the country, on the subjects upon which they were requested to write.

In this way a single chapter, in some instances, is based upon contributions from several writers, not as distinct monographs, but so blended by the editor as to be rendered consecutive, systematic, and homogeneous. Over thirty writers have contributed to the text of the volume, each expressing his own ideas and his own experience, all so woven together by the editor as to prevent clash or disorder. The work has been well done, the scientific experiences and the literary ability of the editor, with the talent at his command, giving us a volume of unusual originality and excellence.

HARRINGTON'S PRACTICAL HYGIENE. For Students and Practitioners of Medicine and Medical Officers. By Charles Harrington, M.D., Assistant Professor of Hygiene in Harvard Medical School, Boston. In one very handsome octavo volume of 718 pages, with 105 engravings and 12 full-page plates in colors and monochrome. Cloth, $4.25 net. Lea Brothers & Co., publishers, Philadelphia and New York, 1901.

The author has been most successful in his preparation of a text-book covering the most important topics in the wide domain of hygiene, so scientific and exhaustive in the subjects treated that it will be recognized as a reference book in the laboratory and for practitioners and health officers. The first 200 pages are devoted to the composition and nutritive value of animal foods, including their parasitic diseases and poisonings, vegetable foods and beverages, and preservatives; a thoroughly scientific study of the air, the soil and water, ventilation, lighting, heating, disinfection, and the disposal of waste material is given, followed by a chapter on quarantine of military, naval, and tropical hygiene, including that of occupation and the care of the person in the regulation of diet, rest, recreation, physical exercise and clothing. It is seldom that the medical press has given a work of more practical value, not only to the medical profession, but to teachers and an intelligent public.

SELF-EXAMINATION FOR MEDICAL STUDENTS. Three thousand five hundred standard questions, with references to standard works, in which the correct replies are given. Price, 10 cents. E. Blakiston & Co.

CORRESPONDENCE.

BERLIN LETTER.

To the Editors of THE MEDICAL TIMES:

It is with no little misgiving that I add this letter to that of my first impression of German universities, as so many medical visitors in Europe have given vent to their impressions, opinions and criticisms that it would seem as though there were nothing left to talk about. Still, as expressions of opinion can at least hurt no one but the writer, I feel that I may add myself to the list of letter writers, especially since most of the letters which have fallen into my hands were written by people who have "trotted" over large areas, and rarely located for any length of time at one center. Perhaps the closer observation of American post-graduates, who have confined themselves to particular localities, would be a useful addition to the impressions of the more superficial "clinic trotters," with all due respect to the value of the latter method. One thing that struck me while in Berlin is the utter ignorance of many men from the Western Continent of any "university life" outside of the so-called great medical centers.

They seem to forget that of the twenty German universities (exclusive of Austrian and Swiss) there is not one that has not some able original workers—nay, even eminent men, and well known to those not utterly ignorant of the world's medical literature; and that, while the careers of many great men culminate in a "call" ("Ruf") to one of the great centers, Berlin or Vienna, there are many who decline such calls. A marked example of this is Hegar, who, ever since his call to a professorship has remained, in spite of offers, at one university. There are various reasons for this. The Germany of to-day is very different from that of thirty years ago, and the professors at some of the small universities are the owners of handsome villas, and the professorial circle is usually the most select and exclusive of the town; so that there are many professors who, sooner than sacrifice this charming life, prefer to remain and glorify their own universities.

It is often also partially in consequence of this that one particular university will become noted as the center for a certain specialty, and with the death of its par-

ticular light the number of students seeking that branch will dwindle to a minimum.

A striking instance of this sort occurred at the death of Baumann, known perhaps best in America as the inventor of trional and sulphonal.

The German student usually spends his first "Semester" at the university of his particular principality; then he begins a series of wanderings, going to one university because surgery is good there, to another because internal medicine is best there, finally ending again by taking his state examination, after completion of the prescribed number of semesters, either at the place he happens to be last, or at the university of his native State. Here he has a decided advantage over us in America; not only is he not bound to one set of men, but when he takes his examination he is entitled to practice anywhere in the Empire, as the questions are supplied to the various faculties by the Minister of Education.

It is true he often spends the summer at that particular university which pleases his fancy because of its beautiful surroundings.

Before coming over I was warned not to study pathology in Berlin, as Virchow was getting old and dilating more on Greek roots than pathology—a case where a great man is no longer a teacher. I have since had opportunity to observe the emptiness of the large, beautiful auditorium in the Pathological Museum in Berlin, in contrast to the overcrowding of Ziegler's course in Freiburg; in which Berlin students seemed to predominate. Orth, in Göttingen, is also much sought by American students, and his laboratory was recommended to me by no less a man than Nuttall, whom I met just before he issued his recent phippic on Koch's attempt to monopolize the honors and the "mosquito privileges" in malaria work. One thing is certain, Americans receive a friendly welcome with Ziegler, who speaks English well. Shortly before I visited him, the nephew of one of Baltimore's most eminent pathologists had just left his laboratory. He holds the autopsy and the microscopic courses personally. His assistant, Professor Von Kahlden, has written one of the best works on microscopic technique.

The Pathological Institute is, of course, older and smaller, and hence incomparable with the new Museum and Lecture Hall in Berlin.

The professor of Internal Medicine, Bäumler, was at one time physician to the German Hospital in London, and is hence conversant with English. I was a guest at his clinic on nervous diseases, and was much impressed with the careful elucidation of severe chronic cases. His assistant, Treupel, has written quite a book upon "The Motor Disturbances in the Larynx of Hysterics." It was at this clinic that Kussmaul, now of Heidelberg, did the work which laid the foundation for the modern treatment of stomach diseases, especially the mechanical, as he was the inventor of the stomach pump. The celebrated Nothnagel, of Vienna, received his call to the latter place from this clinic.

Notable among the list of distinguished medical names which adorn the ceiling of the auditorium are those of the Americans Flint and Bowditch.

The Hygienic Institute is a modern structure, built on such model sanitary lines that during the study of hygiene of dwellings the students are led through the building and told "this is the way it ought to be." Here Schottelius lectures on bacteriology, and, while I believe Freiburg has heretofore not been sought by Americans for bacteriology, it is one of the cases that shows that the change of times must be observed, since during my stay there Schottelius was sent by the Imperial Government to India to investigate the bubonic plague, and for a short time the laboratory was largely devoted to the "pest." Schottelius was originally pathological anatomist, being with Ziegler in Würzburg during Virchow's prime at that place. He has published an important work on micrococcus prodigiosus. He is a man of considerable wealth, and lives in a beautiful villa on the Schlossberg, overlooking the professorial quarters.

The Physiological Institute, which, together with the Physical, forms one handsome modern building, was a surprise to me, as I had not expected to find so many fine modern institutions in Germany, since they are at a disadvantage with us on the whole, having not to build but to rebuilt (the university itself having been founded in 1456, and the *new* university building dating 1774). Von Kries, the physiologist, is a very fine gentleman, and much impressed with the importance of the dignity of a German university.

Anatomy in Freiburg is a treat. The genial Wiedersheim with his jokes is enough to make even dead osteology smile. There are numerous female students here, and the exemplary conduct of the beer-drinking and bescarred students, fresh from the "Mensur" of the day before, is remarkable. No lady need feel out of place. Wiedersheim is an artist of ability, and I was shocked at the ruthless way in which he erased his beautifully executed blackboard illustrations. He likes to tell the students how Krause, of end-bulb fame, while working in this institute once frightened the janitor, who hindered him in his enthusiastic work; so that at present, in order to command the respect of his janitor, he merely needs to say "Krause!" Wiedersheim's chief published studies are on embryology and comparative anatomy.

The Surgical Clinic is under Kraske, known throughout the surgical world for the Kraske operation for resection of the rectum. He is the pupil of the celebrated Von Volkmann, of Halle, and in continuing the work indicated for him by his great master, whom he so oft mentions in affectionate terms, has probably done more for the curative surgery of the rectum than any other surgeon. He now believes that the abdominosacral method is the operation of the future. While every one else calls the sacral method the Kraske operation, I have never heard him even speak of it as "my operation"; he is also fully aware that it is not the only method, and I distinctly remember one incident—a Polish physician whom I knew as exceptionally well-posted in a literary way was asked, "What operation is here indicated?" He promptly replied, "The Kraske." He was immediately told: "That is more than the author of that method would claim himself for every case."

The professor is a veritable giant, and with his great knotted brow makes the impression of perfect self-confidence in the operating room—veritably the layman's ideal surgeon. As a surgical professor from San Francisco remarked: "He makes the impression of trusting to God and going ahead." Among the students who compare him with the clever Mikulicz, of Breslau, he has not the reputation of a great theorist, but of an "exceedingly practical man"; this is largely due to the fact that he is a man of few words and writes little. He seems to like to operate for genu-valgum, and the story is current (and true) that when he first came to Freiburg he noticed a waiter with marked knock-knees

in a café; he invited him to the clinic, corrected the little deformity by osteotomy, and the "Kellner," who was previously "good," became so "gay" on his straight legs that he became of no use. I saw him do osteotomy on a young woman otherwise sound, but who had knock-knees in a higher degree than is even allowed females, and when he broke the femur in his powerful hands even the big surgeon-major present twitched at the resounding crack as though he thought it took lots of courage. What impressed me most is the off-hand way in which he did severe operations—even so-called experimental ones. One day he suddenly turned to me and—after a series of such minor cases as large goiters and breast cancers—remarked nonchalantly: "The next will be an abdomino-sacral for cancer of the sigmoid." Although he uses the open-wound treatment of the South German School, I did not see any of the "sad effects" ascribed by a certain celebrated American surgeon to this treatment in the hands of Rose some years ago. I did not see one case of septicemia in thirteen months. I should describe his antisepsis as "intelligent" and not of the "fashionable sort." Chloroform is used exclusively here as a general anesthetic, and I looked in vain for one case in which resuscitation became necessary. The Trendelenburg position he never uses, as he fears the effects of congestion of the lungs. In fact, it is confined almost to gynecology in Germany. As he is, due to local condition, next to Kocher, of Berne, the chief goiter surgeon, his opinion is valuable as, especially with Baumann, he conducted tedious experiments with thyroidin and the feeding of sheeps' thyroids. He says only in *simple hypertrophic goiter is* internal treatment of any use.

For the radical cure of inguinal hernia he considers merely the operations of Bassini and Macewen. For hypertrophy of the prostate he uses the Bottini operation. Operations for gall-stones form, with extirpation of goiter, almost the daily routine of the clinic. Resections for tuberculosis of joints are very common, and it is surprising to see what an immense material even the robust-looking peasants furnish in this direction. I saw some splendid results attained by operations for paralysis of the lower extremities, due to caries of spine. Apropos of the exhibition of the result of such a case, I never saw a happier face in my life than that of the young woman who walked into the clinic as a result of such an operation, after having lain two years on her back.

Another thing which impressed me here was the picture of sublime confidence in their physicians, absence of prudery and fear of the operating room, shown by the patients. They mostly walked into the amphitheatre, climbed upon the table, and allowed very grave operations to be done often under Schleich's local anesthesia, with apparently as little concern as we feel when being shaved at a barber's. Truly a compliment of gratitude to their physicians!

The Gynecological and Obstetrical Clinic, recently enlarged by a model new lying-in building, is under Hegar, author of the standard work on operative gynecology of Germany. Hegar has had a career exceptional in Germany; he never went through the regulation steps to become professor—*i.e.*, first "Privat-Docent," etc.—but was called from private practice in Darmstadt, and has never, in spite of inducements (?), left the university. He is not merely known for Hegar's sign of pregnancy* of our State boards; Cæsarian sections are one of his specialties, as Freiburg is one of the centers for this, owing to the predominant religion and to the extreme pelvic conditions, rachitic and osteomalacic, for which the upper Rhine region is noted, and Dr. Senn's charming little book, "Four Months with the Surgeons of Europe," loses much of its scientific value for students as a guide by omitting this fact. Spend two days with Hegar and one will think gynecology consists of the study of the pelvis; a few more, and see Hegar's collection of deformed pelves, and one sees this is the local specialty!

Hegar is now over seventy, operates regularly, and goes shooting almost as regularly on his preserves. I witnessed the torchlight procession of several hundred students in his honor, and attended the immense "Commers" ("beer-banquet"), where several hundred students and the faculty drank to his honor on his seventieth birthday. It is needless to say Hegar was radiant!

H. O. SOMMER, M.D.

Berlin, February 28, 1901.

* In addition to his own he now recommends "Braun's sign of pregnancy.

WALTER FERRIS MORGAN, M.D.

Walter Ferris Morgan was born in Brecksville, O., Aug. 21, 1836, and died in Scarritt Hospital, Kansas City, March 10, 1901.

Dr. Morgan studied medicine with Dr. S. B. Thayer, in Battle Creek, Mich., and graduated at the Cleveland Homeopathic College in 1862. In 1865 he settled in Leavenworth, Kan., where he has since lived. In 1867 he married Eliza M. Knowles, a practicing physician in Richmond, Ind., who, with one daughter and his sister, survives him.

Although educated in the homeopathic school, Dr. Morgan was not bound by any dogma. He believed it his duty to learn from all schools, and profit by the teachings of the wise.

With an abiding faith in the power, wisdom and love of the Infinite Father, he had no creed, unless it be to "Owe no man anything." Men of all religions were, to him, brothers, if they sought to benefit humanity.

Loyal as a knight to woman, he asked for her equal rights and privileges, admitting no superiority in sex. He held to one standard of purity for the sexes, and this he taught in a series of articles for the NEW YORK MEDICAL TIMES, afterward published as a monograph. He believed that, to a great extent, physicians are responsible for the low standard as to sexual purity held by a large class in society. He felt that any physician who would treat a "fallen" man jokingly, or as though it were a matter of course, thus disgraced the noble profession.

He opposed mob law, and advocated the legalized use of the surgeon's knife as the natural and should be the inevitable punishment of criminal assault upon a woman.

Appalled by the state of corruption in our large cities, he was an earnest student in the subject of municipal reform, seeking the best methods of banishing the evils of gambling, the liquor traffic, and the social evil.

Through his practice, brought into constant contact with the hopelessly poor and dependent, he felt that the only permanent relief for this class must be through the education of the children in habits of industry and usefulness, and that this is a worthy field for the magnificent deeds of charity of our philanthropists. But, while full of kindness for the world, his delight and rest were in his own home, of which he was the faithful, devoted and idolized center.

The funeral services at the house were fittingly conducted by the Rev. Ralph Newman, a personal friend of Dr. Morgan, with whom he had many earnest con-

sultations on the subject of municipal reform. The services at the cemetery were in care of the I. O. O. F., of which order the doctor had been a member since early manhood. The members proved themselves brothers indeed.

The physicians of Leavenworth, as a body, sent a marvelously beautiful floral tribute to his memory, and the room was filled with these loving tokens from his many friends.

His life must be an inspiration to all who love the truth.

SONNET TO THE SUPREME.

To the Eternal and Impersonal,
Be Thou Father, Jehovah, Jove, or Pan,
Who art in all, of all, in earth and man,
Nothing so small or great that tongue can tell—
The molecule the atom, or the cell,
Stars too vast for the human eye to scan,
Cycles too great for mortal mind to span—
But finds a place for Thee in which to dwell.
Thy greatness overwhelms my mind with awe,
I speak Thy name and feel an answering thrill,
As if my pleading heart had moved Thy will,
Or put me *en rapport* with psychic law.
Whoe'er Thou art, all pow'r within Thee lies,
And the soul to Thee with true instinct cries.

DAVID ALLYN GORTON.

Brooklyn, April, 1901.

TREATMENT OF CANCER.

To the Editors of THE MEDICAL TIMES:

Some fifteen years ago a large mole on my neck was destroyed by riding rapidly past a swinging vine, and gradually became more and more difficult to heal, until the pain and continued recurrence led me to consult Dr. G. N. Murphy, of Bowling Green, Kentucky, who advised the application of an arsenical zinc paste, after Dr. A. R. Robinson's formula.

This removed a large eschar, and the disease was effectively controlled until within a few months a slight hardness has appeared near the old scar.

In the meantime a scaly rough place appeared on the opposite ear, which was always painful in the sun, or by a light or fire. This growing more troublesome from year to year, led me to resort to caustic treatment, some six months ago.

Marsden's arsenical paste was employed first, but it not seeming to destroy the pathologic tissue, a saturated solution of zinc chloride was tried, with no better result. Then resort was had to Dr. Robinson's formula, with great destruction of tissue, but after repeated applications the pathological growth returned, accompanied with heat and pain and temporal throbbing.

These phenomena were, of course, present to an extent from the caustics, but the recurrence of pathologic growth was always announced by a characteristic lancinating pain, extending into neighboring parts, and by great increase of heat in the light.

The neighboring glands becoming enlarged, led me to apply to Dr. Emory Lanphear, of St. Louis, who removed the affected part of the ear, tied the temporal artery, dissected out the involved glands, and cauterized the entire wound.

Now, after five weeks, there has been no recurrence of lancinating pain, or heat from sun or lamp light, and the parts have almost entirely healed.

The mechanical abrasion of the mole was the originating factor in the first case, but the progress and course of each was similar, except that I am not aware that the ear was injured in any way as an exciting cause. Then, why did the caustic act favorably in the one case and not in the other?

In the first the application was timely, of good chemicals, and thorough; in the last, it was after lymph involvement; the chemicals were imperfect and their use not pushed forcibly.

The entire review of this case, which I am able now to obtain, leads me to emphasize the words of Drs. Robinson and Gothiel, that arsenical paste applied early to cancerous tissue will effectively destroy it; that, failing in this early application to caustics, the knife also becomes necessary.

The want of unanimity in the profession relative to treatment of this most painful and distressing disease leads me to send these hasty notes. I have read with great interest all you have published relative to cancer, and especially in your March number, from Dr. Frank O. Webber, on "The New Treatment." Let us get closer to the cause of all disease, if possible.

Respectfully,

JAMES H. CRAIN, M.D.

Beechwood, Ill., March 26, 1901.

THE DEATH OF BENJAMIN HARRISON: A STUDY IN PNEUMONIA AND TYPHOID FEVER.

"Hale and hearty octogenarians must have read with interest the statement of the physicians that ex-President Harrison's advanced age was strongly against him. Gen. Harrison is sixty-eight."—*Boston Globe* editorial note.

Strong men at fifty-eight, forty-eight, thirty-eight, or twenty-eight, as we all know, die of pneumonia; but it is the conviction of many individuals in the profession, some of them eminent regulars, others successful empirics, that in ninety-five such cases in every 100 the fatal termination is the result of mistaken treatment.

There is little consolation to the widow of plain John Smith, who died either at home or in a hospital, in the thought that the widow of a former president of the United States is at present mourning for her husband, who died of the same disease, the treatment in both cases having been practically alike. But when we reflect upon the fact that the prevailing regular medical treatment for pneumonia results fatally in about 25 per cent. of all cases treated, and sadly depletes the vitality of the seventy-five in the 100 patients who do not die outright, while the true physiologic treatment—chest-chilling and therapeutic fasting—speedily aborts the disease in seventy-five cases in the 100, curtails the severity and duration of illness in twenty cases, and premits of no more than three to five fatalities; and, moreover, that most of those who recover, recover full health, it seems passing strange that the profession everywhere does not learn and practice the latter system of treatment. Dr. Thomas J. Mays, of Philadelphia, a prominent hospital physician, several years ago announced the reduction of the mortality in pneumonia to about 4 per cent. (3.66) in one series of cases numbering over 400, in hospitals and private practice, his method being the chest-chilling one to which I have referred. Ice is never allowed to come in contact with the skin, but the entire chest is kept constantly enveloped with ice-bags. It is perhaps too much to claim that this small percentage of deaths could be lessened by means of absolute fasting (Dr. Mays feeds his patients only moderately), but I find that the sicknesses are shortened and lessened in severity, and that less radical hydrotherapeutic treatment

is required, if all food save fresh water is withheld till convalescence is fully established, the stomach restored to a state indicating the digestion of food, and the patient unmistakably hungry. The cold compress (a coarse linen towel, four-ply, wrung tightly from ice-water, a fold or two of same, dry, as a cover) pressed close over the entire chest, and freshened as often as it becomes over-warm, be this every two, ten, or twenty minutes, usually answers my purpose.

From an article by the present writer on Typhoid Fever* the following seems, to my mind, quite as appropriate in this connection as in the original paper:

More than two thousand years ago, Hippocrates, "the father of medicine," advised the withholding of food "during the *progress* of fever," and in every generation from his day to ours this has been the sheet anchor of the wisest dietists in the treatment of acute disorders characterized by high temperature. The great novelist, Balzac, in a private letter to a very dear friend more than fifty years ago, describes an illness that came upon him. He says: "I have been very ill. The doctor called it coagulation of the blood, which might affect the brain. M. Nacquest condemned me to a bath of three hours each day, and to drink three pints of water every day, and to take no other nourishment. At the end of two weeks I came out of this barbarous but heroic treatment with a clear skin, renewed strength, and with fresh courage for new struggles." Surely there was at least one wise practitioner in Paris in 1841.

But, shall we not nourish the fever patient? Assuredly, yes; but, as Dr. Henry† remarks, "the question of nutriment is a relative one, depending upon the immediate wants of the system. To a person perishing from thirst nothing is so nutritious as water. The strongest argument for the cold-bath treatment in typhoid fever is that it prevents tissue degenerations, especially of the heart, which are generally ascribed to long-continued drought. We do not attribute the desiccation and decay of vegetables during the torrid heat of summer so much to the presence of heat as to the absence of water, and the facts with reference to our own tissues during the heated term of a fever are precisely analogous. In a word, our bodies, in health, are more fluid than solid, and can not perform their functions unless this fluidity is maintained."

Twenty years ago Sir William Jenner, in an address before the Midland Medical Society of Birmingham, England, referring to the vicious effects of forced feeding, said: "I have seen the patient restless, sleepless, his temperature raised several degrees above what it had previously been, vomit, eject a quantity of curd, and at once the restlessness cease, the temperature fall, the skin become moist, and the patient drop into a quiet sleep. All the threatening symptoms vanish with the ejection of the offending material. Or the undigested curds may accumulate in the bowel, inducing flatulent distention, pain, restlessness, and increased febrile disturbance. Under these circumstances I have seen an enema bring away a large vesselful of offensive, sour, undigested curds. Or, again, the undigested curds may themselves (and this has not been an uncommon consequence of milk diet in my experience) irritate the bowels, and produce, keep up, or greatly increase diarrhea."

No diarrhea, speaking generally, in infant or adult age, can withstand the effects of a day or two of fasting; and no one should ever hesitate to apply this remedy when indicated. The silly notion as to any possible danger of a patient's starving to death, or even to his hurt, from a week, or two, or three, of subsistence on fresh water and fresh air, in view of all the fasting observations we have made before and since the Tanner fast, is too childish for any one to consider with complacency. But it seems as though the profession could never learn this simple lesson. At the time of the Tanner episode in New York, when almost the entire medical fraternity there and throughout the country was scoffing and sneering and joking at and about the faster, Marion Sims cabled over from Paris: "Your experiment watched here with great interest by scientists, ridiculed by fools. Courage, brave fellow, hold on. Wish you success. J. MARION SIMS."

No end of fever patients have emaciated to skeletons during many weeks of forced feeding, and finally died, largely from inanition, who would have been convalescent by abstaining from all food save water for periods varying from one to two weeks early in their illness. Such patients emaciate much faster on feeding than on fasting, at times; in the first instance they are being both starved and poisoned, there being absolutely no nourishment in putrefying food substances, while the ptomaines resulting from such putrescence are often as fatal as arsenic or other deadly poison.* Many and many a time have I seen emaciation lessen, pain made to cease, all bad symptoms disappear, and *strength rapidly return*, from fasting sufferers from constant feeding.

I think that I am not making an overstatement when I say that if every patient beginning to be feverish, with lack of appetite, nausea, etc., were treated on the plan herein indicated, the three hundred thousand cases of typhoid fever occurring in this country every year would be reduced to perhaps fifty thousand, and, of these, forty-five thousand would be restored to health after comparatively "comfortable sicknesses." This would mean a saving every year of forty-five thousand lives, a value to the nation of at least forty-five million dollars, while the saving effected by the shortened sicknesses (to say nothing of the saving of vitality to the restored patients†) would mount up to many more millions.

Then, too, we may well consider the question of the distress, anxiety, and grief of the relatives and friends of the typhoid-fever patient, from the needlessly prolonged illnesses, in which a night and a day nurse are often required, and the entire household upset for many weeks; whereas, under correct management, patients are at ease, and require very little in the way of attention. Of course, when the hygienist is called to a neglected or badly treated case, much care, skill, and time are required to set things right; some such will have passed beyond the power of human skill to save, but even these will be spared much in the way of pain and suffering.

There is a lamentable lack of interest among medical men concerning all such studies as are embraced in this paper. The reason of this is not far to seek; the medical schools give their graduates almost nothing in the way of teaching in hydrotherapy, and it is the almost universal practice with their professors and

* "Typhoid Fever: A Study in Physiologic Treatment, Including Physiologic Diet." *New York Medical Journal* for March 3, 1900.

†Frederick P. Henry, A.M., M.D., on Typhoid Fever, in "A System of Practical Therapeutics."

* "Food Poisoning and Metallic Irritants." Paper read before the Massachusetts Medico-Legal Society, October 4, 1899, by Charles Harrington, M.D.

† According to life-insurance statistics, of all who are said to "recover" from typhoid fever, 25 per cent. finally die prematurely of consumption, so devitalizing is the prevailing treatment.

the hospital physicians to feed early and often, as if the question of digestion and assimilation were not at the bottom of all true feeding, and not simply swallowing. In the discussion following the reading of an essay on "Hydrotherapy, Its Scientific Basis," by Professor Putnam, of Harvard University, recently, Dr. Coggsshall insisted that "it is disgraceful that students should be allowed to graduate from our medical colleges with practically no systematic teaching in regard to non-medicinal therapeutics," and Dr. Rogers remarked jocosely that "medical colleges ought to cease to graduate men who don't know the difference between a Scotch douche and a hot Scotch." Kussmaul writes: "Of hydrotherapy the young physician knows almost nothing [nor does one in the hundred of old ones know or practise very much].* Here is a great gap in the education of our physicians; here is the real cause of his inability to cope with the empirics for the favor of the public." Professor Credé, of Leipsic, states that "if physicians were better versed in these branches, the field of operation of many quacks would be greatly curtailed," which is only another way of saying that many quacks are more efficient in practice than the average regular practitioner, an admission as true as it is shameful.

It seems almost beyond belief that any physician could be found, at a time so close to the twentieth century, who would deny a typhoid-fever patient all the water he craved; but in fact such an occurrence is not altogether rare. Water is withheld in great measure, upon the theory that large amounts of fluid interfere with the digestion of other and more nutritious food; but, as Henry has so tritely remarked, under certain conditions there is no other food that can truly nourish the body. During the progress and at the height of typhoid fever "the blood is of a dark, blackish-red color, and is generally obtained by needle puncture of the finger with more than ordinary difficulty," indicating conclusively a deficiency of water. On the other hand, the thickly coated tongue, sordes, and the generally parched condition of the mouth indicate quite as clearly the utter lack of all the dissolving and preserving juices absolutely essential to the digestion of solid food, or any other food but water. To call milk a liquid food seems to me absurd, when it is stated on high authority that the casein of a pint of milk is equal to a good-sized mutton chop, and is vastly more difficult of digestion; yet we know that as much as two or three quarts of milk are swallowed by a typhoid patient in twenty-four hours. The results of this abuse of food have been vividly portrayed by the late Dr. Jenner, as above quoted.

The fasting typhoid patient will shortly have no movements of the bowels; there is a normal closure, so to say, under these conditions. After convalescence is fully established, the condition of the stomach such as to make the digestion of food possible, and the patient hungry enough to take a half slice of stale Graham bread for "pie" and pronounce it delicious, this will be a good risk. Two or three times a day, after a day or two, he may have a moderate portion of such bread and a few stewed prunes; but the bread is to be chewed by itself, not run down with sauce, or any other fluid but saliva. After a few days of feeding the bowels will get in condition for a natural movement, and should never be moved with physic, though occasion may occur in which an enema of a cupful of cold water may be of use in stimulating the action of the lower bowel; but this only in case of the presence of waste matters difficult to expel otherwise.

It is a lamentable fact that we rarely find an individual in the profession who is at all in love with the study of hygiene, personal sanitation, and natural methods of treatment. The great proportion regard hygiene about as honeybees do the nectar of *Epipactis latifolia*—they won't touch it! But, on the other hand, the wasps are very fond of this nectar, as many empirics are fond of hygiene. The empiric to be shunned is, in my estimation, the medical man who hears of any important addition to the means for alleviating human suffering and fails to try with all possible energy to become familiar with its principles and technique to employ it in his practice. Though armed with a dozen parchments, such a man is unfit for his calling.

The *rationale* of chest-chilling in pneumonia arises from the peculiar local lesion in the lungs, the imminence of complete closure of the air-vessels from pressure of the blood-vessels, and the consequent need of in-and-in cooling to brace the latter and prevent further relaxation. Mr. Harrison was said to have contracted a slight cold, and some fear was entertained that it might be a case of "grip." For two or three days no alarm was felt as to the outcome of his ailment. Some pressure at the lungs began to develop, and if at this stage the chest had been properly treated, and the overtaxed stomach* had been given complete rest, it is my conviction that he would have been convalescent very shortly. Every "cold on the lungs," as it is erroneously called, is incipient pneumonia. It represents, always, the *condition* of the patient—what he has *accumulated*, by reason of mistaken living habits†—not what he has *caught*.

If his condition is sufficiently bad, or the lungs at all weak, and the disorder is neglected or badly treated, the result is likely to be full-fledged pneumonia. In such case there is not only general fever, as in typhoid, but there is a terrible local lesion, as already remarked, in the lungs, which are engorged with blood. The walls of the blood-vessels of the lungs being relaxed, these vessels are stretched to abnormal size, and are filled to a degree that not only checks the onward flow of the blood, but partially, sometimes completely, closes the air-vessels. If this condition is not prevented, or speedily changed, a fatal termination is likely to result. It is here that the usual local treatment, mustard paste, hot poultice, etc., though often seeming to afford temporary relief by increasing the relaxed state, does its deadly work. The truth of the matter is, that sufficient local heating, applied to the chest of the most robust of men, confined in bed, in a close room, would actually produce "lung fever" (pneumonia). Yet, strangely enough, this is a prominent feature in the treatment of this disease by most physicians. The doctor, in fact, when called to the bedside of such a patient, is likely to find the hot poultice *in situ*, and he usually commends this and commands its continuance. It is popular with the laity, being along the line of their coddling habits and the traditions of the profession. It is risky, from a business point, for the doctor to run counter to this; but it means *the saving of life*, and, in the long run, *reputation*.

CHAS. E. PAGE, M.D.

Boston, Mass., April, 1901.

* Brackets present writer's.

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† Bad- or over-eating; eating when not hungry, or when fatigued, or getting tired directly after eating; excess of clothing; lack of exercise, etc.

"DELUSIONS OF THE SANE."

To the Editors of THE MEDICAL TIMES:

I have just been reading Dr. Gorton's paper, on "Delusions of the Sane," in which he mentions a faith in the 5,000th delusion as efficacious in treatment, for one instance.

He then proceeds to remark: "The amount of water needful to cover the tops of the highest mountains, in which one grain of a drug should be dissolved, would approximate the 5,000th dilution."

Since the "sixties" I have read a number of attempts to represent the homeopathic dilution in figures, but never yet one that exhibited the nerve needful to show up the whole. It is, perhaps, but threshing over old straw, but there is still plenty of grain left. So far from the doctor's idea of "approximation" being the true one, it is a fact that if one drop of medicine were raised to the thirtieth dilution, in alcohol, at 120 drops to a fluid dram, a mass would be formed equal in size to more than twenty-eight times that of Mother Earth (if made with water it would more nearly equal fifty-seven times the size of the earth). The fortieth dilution would fill five-seventh of the orbit of Mercury. The fiftieth dilution would have a radius, if in a spherical form, of more than twenty times the average solar distance of Neptune. The 100th dilution would take a ray of light more than 440 millions of years to pass the length of its radius, at 186,500 miles per second. The 5,000th dilution is nearer infinity—and if measured in radius by the ray of light, would demand 1,648 figures to represent the number of years needful to pass from end to end. Rather weak by this time.

Yours very truly,

R. H. MOREY, M.D.

Old Chatham, N. Y., April, 1901.

ED. NOTE.—The reply which the dilutionist would make to the calculation of our esteemed correspondent is that, while his figures are correct, they do not accord with the facts; for instance, he takes one grain of a drug and triturates with nine grains of sugar of milk to make his one-tenth ($^1/_{10}$), then he takes one grain of his one-tenth and triturates with nine other grains of sugar of milk to make his two-tenths ($^2/_{10}$), and so on, as far as he wishes to go. The fact is, that he need *not* use any more of his one-tenth ($^1/_{10}$) than he chooses, after he has secured his two-tenths ($^2/_{10}$), and so on. The mistake is to suppose that he must use the whole of his preceding trituration, when the fact is that he may only use one grain of it and discard the balance. This explanation makes the figures of our correspondent appear less formidable, and is in the interest of truthfulness.—ED.

Codein in the Treatment of Neurasthenia.—Dornbluth (*Ther. Monatschr.*) seems to regard codein as almost a specific in the treatment of neurasthenia. It exerts a stimulating effect in combating the drowsiness of people who are obliged to be continually at work. The effect is a lasting one, unlike that of the bromides. He even claims that codein will cure the majority of cases. The initial dose is .01 gm., three times a day; after four or five days he increases the dose five or six times, continuing with .02 gm., five times a day, for four or six weeks. As soon as improvement is evident, the treatment is discontinued. Cases of psychic depression and melancholia have reacted equally as well to the codein. As an adjunct to the codein, he orders blood tonics until recovery is complete. It has no sedative effect, and there is, therefore, no danger of establishing a drug habit.

New Method of Making Milk Digestible.—Dr. Robert T. Edes gives a valuable method of preparing milk where other methods have not proved useful.

A pint of milk is gently warmed. Into it is dropped, very slowly and with constant stirring, about twenty minims of dilute hydrochloric acid. The milk should be stirred until it cools. In this way a very fine flocculent coagulum is produced, floating in the whey, which is easily accessible to the digestive secretions, while the whole fluid has lost somewhat of the flat and cloying taste which makes it unacceptable to so many. It will be noticed that milk prepared in this differs from the various wheys in the highly important particular that the casein is retained and used, instead of being separated out as a distinct product, while it avoids the bitterness of pancreatinized milk.

The Dynamic Value of Carbohydrates.—According to the *Georgia Journal of Medicine and Surgery,* Abel summarizes the value of carbohydrates for muscular work as follows:

1. When the organism is adapted to the digestion of starch, and there is sufficient time for its utilization, sugar has no advantage over starch, as a food for muscular work, except as a preventive of fatigue.

2. In small quantities, and in not too concentrated a form, sugar will take the place, practically speaking, weight for weight, of starch, as a food for muscular work, barring the difference in energy and in time required to digest them, sugar having here the advantage.

3. It furnishes the needed carbohydrate material to organisms that have as yet little or no power to digest starch. Thus milk sugar is part of the natural food of the infant.

4. In times of great exertion or exhausting labor, the rapidity with which it is assimilated gives it certain advantages over starch.

Alarming Attacks of Dyspnea Caused by Tea.—Jonathan Hutchinson, F.R.S., (*Archiv. of Surgery,* III., 242) describes the case of a delicate, nervous man who had peculiar, alarming attacks, resembling angina, after breakfasting on tea, which he was accustomed to take freely. There was also a sense of inability to breathe, and of impending death. No organic disease of the chest could be made out. The patient was advised not to take tea, and three years later he was in good health, and the symptoms had not returned. Mr. Hutchinson has known other cases where a cup of strong tea produced similar, though less severe, attacks of breathlessness. One of the ordinary symptoms produced by the disagreement of strong tea is, he believes, a sense of tightness behind the sternum, with some dyspnea.

Hospitals in the United States.—Some idea of the enormous growth in numbers and importance of the hospitals of the United States is given in a paper read by D. T. Sutton, at a meeting of the Association of Hospital Superintendents, recently held in Pittsburg. Within three years, we learn, $245,000,000 has been spent in the United States in the erection and equipment of new hospitals, in enlarging and improving old hospitals, and in general expenses. Over 1000 new hospitals were built, a gain of 65 per cent. The approximate cost of these buildings was $50,000,000. There are to-day about 2,500 hospitals and asylums proper in the United States. These employ about 65,000 persons in various capacities. The hospitals pay yearly in salaries about 23,332,000. Over 1,000,000 patients are annually treated, and 37,500 physicians attend them. In all of the hospitals there are 300,000 beds.

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I have just been reading Dr. Gorton's paper, on "Delusions of the Sane," in which he mentions a faith in the 5,000th delusion as efficacious in treatment, for one instance.

He then proceeds to remark: "The amount of water needful to cover the tops of the highest mountains, in which one grain of a drug should be dissolved, would approximate the 5,000th dilution."

Since the "sixties" I have read a number of attempts to represent the homeopathic dilution in figures, but never yet one that exhibited the nerve needful to show up the whole. It is, perhaps, but threshing over old straw, but there is still plenty of grain left. So far from the doctor's idea of "approximation" being the true one, it is a fact that if one drop of medicine were raised to the thirtieth dilution, in alcohol, at 120 drops to a fluid dram, a mass would be formed equal in size to more than twenty-eight times that of Mother Earth (if made with water it would more nearly equal fifty-seven times the size of the earth). The fortieth dilution would fill five-seventh of the orbit of Mercury. The fiftieth dilution would have a radius, if in a spherical form, of more than twenty times the average solar distance of Neptune. The 100th dilution would take a ray of light more than 440 millions of years to pass the length of its radius, at 186,500 miles per second. The 5,000th dilution is nearer infinity—and if measured in radius by the ray of light, would demand 1,648 figures to represent the number of years needful to pass from end to end. Rather weak by this time.

Yours very truly,

R. H. MOREY, M.D.

Old Chatham, N. Y., April, 1901.

ED. NOTE.—The reply which the dilutionist would make to the calculation of our esteemed correspondent is that, while his figures are correct, they do not accord with the facts; for instance, he takes one grain of a drug and triturates with nine grains of sugar of milk to make his one-tenth ($^1/_{10}$), then he takes one grain of his one-tenth and triturates with nine other grains of sugar of milk to make his two-tenths ($^2/_{10}$), and so on, as far as he wishes to go. The fact is, that he need *not* use any more of his one-tenth ($^1/_{10}$) than he chooses, after he has secured his two-tenths ($^2/_{10}$), and so on. The mistake is to suppose that he must use the whole of his preceding trituration, when the fact is that he may only use one grain of it and discard the balance. This explanation makes the figures of our correspondent appear less formidable, and is in the interest of truthfulness.—ED.

Codein in the Treatment of Neurasthenia.—Dornbluth (*Ther. Monatschr.*) seems to regard codein as almost a specific in the treatment of neurasthenia. It exerts a stimulating effect in combating the drowsiness of people who are obliged to be continually at work. The effect is a lasting one, unlike that of the bromides. He even claims that codein will cure the majority of cases. The initial dose is .01 gm., three times a day; after four or five days he increases the dose five or six times, continuing with .02 gm., five times a day, for four or six weeks. As soon as improvement is evident, the treatment is discontinued. Cases of psychic depression and melancholia have reacted equally as well to the codein. As an adjunct to the codein, he orders blood tonics until recovery is complete. It has no sedative effect, and there is, therefore, no danger of establishing a drug habit.

New Method of Making Milk Digestible.—Dr. Robert T. Edes gives a valuable method of preparing milk where other methods have not proved useful.

A pint of milk is gently warmed. Into it is dropped, very slowly and with constant stirring, about twenty minims of dilute hydrochloric acid. The milk should be stirred until it cools. In this way a very fine flocculent coagulum is produced, floating in the whey, which is easily accessible to the digestive secretions, while the whole fluid has lost somewhat of the flat and cloying taste which makes it unacceptable to so many. It will be noticed that milk prepared in this differs from the various wheys in the highly important particular that the casein is retained and used, instead of being separated out as a distinct product, while it avoids the bitterness of pancreatinized milk.

The Dynamic Value of Carbohydrates.—According to the *Georgia Journal of Medicine and Surgery,* Abel summarizes the value of carbohydrates for muscular work as follows:

1. When the organism is adapted to the digestion of starch, and there is sufficient time for its utilization, sugar has no advantage over starch, as a food for muscular work, except as a preventive of fatigue.

2. In small quantities, and in not too concentrated a form, sugar will take the place, practically speaking, weight for weight, of starch, as a food for muscular work, barring the difference in energy and in time required to digest them, sugar having here the advantage.

3. It furnishes the needed carbohydrate material to organisms that have as yet little or no power to digest starch. Thus milk sugar is part of the natural food of the infant.

4. In times of great exertion or exhausting labor, the rapidity with which it is assimilated gives it certain advantages over starch.

Alarming Attacks of Dyspnea Caused by Tea.—Jonathan Hutchinson, F.R.S., (*Archiv. of Surgery,* III., 242) describes the case of a delicate, nervous man who had peculiar, alarming attacks, resembling angina, after breakfasting on tea, which he was accustomed to take freely. There was also a sense of inability to breathe, and of impending death. No organic disease of the chest could be made out. The patient was advised not to take tea, and three years later he was in good health, and the symptoms had not returned. Mr. Hutchinson has known other cases where a cup of strong tea produced similar, though less severe, attacks of breathlessness. One of the ordinary symptoms produced by the disagreement of strong tea is, he believes, a sense of tightness behind the sternum, with some dyspnea.

Hospitals in the United States.—Some idea of the enormous growth in numbers and importance of the hospitals of the United States is given in a paper read by D. T. Sutton, at a meeting of the Association of Hospital Superintendents, recently held in Pittsburg. Within three years, we learn, $245,000,000 has been spent in the United States in the erection and equipment of new hospitals, in enlarging and improving old hospitals, and in general expenses. Over 1000 new hospitals were built, a gain of 65 per cent. The approximate cost of these buildings was $50,000,000. There are to-day about 2,500 hospitals and asylums proper in the United States. These employ about 65,000 persons in various capacities. The hospitals pay yearly in salaries about 23,332,000. Over 1,000,000 patients are annually treated, and 37,500 physicians attend them. In all of the hospitals there are 300,000 beds.

MISCELLANY.

—Late union is more apt to occur in fractures of the upper third of the humerus than elsewhere: a prognostic point to bear in mind.

—A sandal society has been started in Berlin, and on a Sunday not long ago forty men and women, wearing sandals, marched through the muddy streets.

—Dr. Pozzi, in a recent lecture in Paris, paid a glowing tribute to American surgeons, whom he characterized as "scientifically audacious and brilliantly cool."

—The premises where ice cream is manufactured in Plymouth, England, are registered and supervised by sanitary authority.

—The death at Pittsburg of the oldest man in the State is anonunced. He was a negro, and was proved to be 116 years of age.

—It is reported from Huntingdon, W. Va., that twin sisters who had married twin brothers recently gave birth to triplets within an hour of each other.

—Professor Czerny estimates that about 75 per cent. of known cases of cancer are inoperable, and that in Germany 40,000 persons die annually of the disease.

—The College of Physicians and Surgeons of Chicago has decided to abolish college athletics, on account of the demoralizing influence on the students and the interference with college work.

—The French Minister of Public Instruction has notified the high schools—collèges et lycées—that anti-alcohol instruction should be given an official place on the program on a par with arithmetic or grammar.

—Fifty descendants of the Chevalier Philippe Pacelli, of Rome, Italy, a former director of the pontifical customs, assembled recently to celebrate his 103rd birthday. The chevalier is in perfect health.

—Dr. L. V. Weathers, of Bracken, Tex., says that a few drops of tincture of cinchona dropped far back on the tongue will at once overcome the craving for whiskey in a drinker.

—In all combinations of anesthetics, says R. C. Kemp, the patient is subjected to the bad effects of all. These admixtures, therefore, possess no advantages, since all the bad effects are exerted upon the heart or kidneys.

—Bhagvat Sinhjee, ruler of the Indian State of Gondal, is a medical man. He holds degrees from Edinburgh, London and Oxford. A visit to his sons in England was given up in order to help avert the famine disaster in his State.

—Menelik, Emperor of Ethiopia, has been awarded the first prize on the list offered by the French society against the abuse of tobacco, as he has prohibited the use of tobacco throughout his dominions under severe penalties.

—A curious test for deafness has been brought before the Paris Academy of Medicine by Dr. Bonnier. On applying a tuning-fork to the knee or other part of the bony structure nothing is heard by the sound ear, but the note is audible to an ear in which disease has begun.

—A small piece of rosin, finely powdered and kept on the toilet table, will prove a great benefactor to those who are troubled with their eye-glasses falling off. Dip the tip of the finger into the rosin and put what adheres to the finger on the sides of the nose. It will then be impossible to shake the glasses off.

—The depopulation of India, through famine and cholera, is assuming alarming proportions. The latest advices from Simla say the returns shows a decrease of over a million since 1891, when under normal conditions an increase of a million and a half might have been expected. It is estimated five millions have died in India since 1896 from causes directly due to famine.

—A strange homicide was recently perpetrated in Philadelphia by some young men, who captured a boy and introduced into his rectum a rubber tube connected with a tank of compressed air. The inflation soon reduced the boy to an alarming condition, and his assailants fled. The boy was removed to a hospital, where an operation was proposed, but refused by his mother. The boy died.

—The only physician in Lake City, Col., is Dr. D. R. Lacey. He is serving a term in the jail for manslaughter, but has the liberty of the town, and is maintained at public cost. He has a considerable practice, and the county attempted to recover part of his professional earnings to offset the cost of his maintenance. Failing in this, the authorities petitioned the State Board of Pardons for his release. The doctor refused to sign this petition.

—Some interesting points are found in the annual report of the Registrar-General of birth, deaths, and marriages of the United Kingdom. In 1889 the marriages reached the highest number recorded since 1876, aggregating 262,334, or 16.5 per thousand. The births numbered 928,646, equal to 29.3 per thousand. There were 37,124 illegitimate children born; the deaths numbered 581,799, equal to 18.3 per thousand, and there were 2,844 suicides. This is the first year on record that not a single death from hydrophobia has been reported.

—The following simple method (*Iowa Health Bulletin*) will enable any one to detect readily a dangerous proportion of carbon dioxide in the air of a room: Bring into the room a half-pint bottle entirely full of water; pour out this water in the room, when the empty bottle will be immediately filled with the air of the room; now put into the bottle one tablespoonful of pure limewater, cork, and shake it. If it turns milky white in a few minutes the ventilation is imperfect.

—According to the *Progrès Médical* for July 14, a society has been formed for the scientific and experimental study of psychical phenomena. The institute has for its aim, (1) to provide its premises with laboratories furnished with the necessary apparatus, biometers, magnetometers, spectroscopes, recording instruments, photographic appliances, etc.; (2) to seek and remunerate for subjects; (3) to establish a periodical organ recording experiments and observations with their results and those of the work of all collaborators whom these studies interest.

ORIGINAL ARTICLES.

THE BEARING OF ALIMENTATION ON THE EXCRETION OF ACETONE.*

BY F. SCHUMAN-LECLERCQ, M.D., CARLSBAD, AUSTRIA.

THANKS to the efforts of a number of gifted investigators, our knowledge of the physiological significance of acetone has, of late, been greatly widened.

Our acquisitions in this field—though till now but slightly appreciated by the profession at large—are certainly as important as those bearing on the pathological chemistry of uric acid.

Lest an assertion so broad might savor, at first glance, of exaggeration, I shall take the liberty of briefly recapitulating the more salient chemical facts involved, the better to elucidate the points which I bring forward, as the result of my own original researches, conducted at the Municipal Chemical Laboratory, at Carlsbad, Austria.

What has been ascertained concerning acetone, since the appearance of Jacksch's well known monograph, may be briefly stated as followes:

1. In the physiological metabolism acetone is met with merely in traces (0.01 *gramme pro die*).

2. In starvation, and in exclusive albuminous alimentation, with a moderate amount of albumen, increasing quantities of acetone are noticed in the human urine. According to Gerhardt and Schlesinger diacetic and beta-oxybutyric acid also usually appear.

3. In very abundant proteid alimentation acetone-elimination decreases somewhat.

4. Carbohydrates show the greatest influence. Small quantities make acetone decrease in quantity, large quantities cause it to completely disappear in a short time.

5. The fats have no such influence.

6. The oxidative power of acetone is very small. (Of 3 milligr. to the kilo, taken by the mouth, 18 per cent. are exhaled.) This has been recently confirmed by Leo Schwarz.

7. Jacksch has already found that there is no relation between sugar excretion and acetonuria. Weintraud observed that sugar disappeared for years in the urine of a diabetic, while acetone and its acolytes continued to persist.

Now, it is worthy of note that acetonuria reaches its culmination during starvation, and likewise as the result of a moderate albuminous diet.† As a result of this there is a loss of organic albumen. From these facts the deduction has been drawn that the formation of acetone is due to the decomposition of organic albumen—certainly a conclusion of far-reaching importance, if the results be regarded as conclusive. Unfortunately for the integrity of this proposition, Rosenfeld and Hirschfeld have demonstrated that, even while the body increases in albumen, large quantities of acetone may still appear in the urine. Moreover, they have shown that, even with an insufficient albuminous supply, acetonuria can still be made to disappear by the administration of carbohydrates. It may be readily imagined, from the foregoing considerations, that considerable diversity of opinion has crept into the physiological literature of the day.

This disparity may be traced in even the most modern text-books. Thus Landois ascribes the evolution of acetone to the presence of a reducing substance in the blood, which substance he, in turn, would trace to glucose.

Harnack (1897), however, perceives in it merely the result of a splitting-up of sugar, as witnessed in diabetic subjects; while Krehl (1898) would have us believe that acetone is traceable to a deficient exchange of carbohydrates, on the one hand, and an increased exchange of albumen on the other. Again, Minkonski believes beta-oxybutyric acid to be the true precursor in the synthesis of sugar, or else a derivation of that part of the split-up albumen which contains no nitrogen, sugar formation being, at the same time, impeded.

Weintraud is opposed to the view which ascribes the genesis of acetone to the decomposition of albumen. Hirschfeld sees in acetone an expression of deficiency in carbohydrates. Rosenfeld declares acetone to be the product of moderate albuminous exchange, yet he is keenly alive to the possible agency of fats in the evolution of acetonuria. His experiments convinced him that this influence of the fats was due to their ability to retard or prevent the splitting up of albumen. Palma again believes acetone to be a derivative of the albumen of the body, and of that of the food as well.

Geelmuyden points out that the cause of acetonuria must not be looked for in deficient destruction (oxidation) of acetone formed in the body, but it is due, according to him, to an earlier and different kind of metabolism.

In Geelmuyden's experiments a parallelism is discernible between fat in the food and the degree of acetonuria. For him, fatty metabolism is the most important cause of acetonuria.

Waldvogel's experimental results also point to fat as the chief cause of acetonuria. He likewise proved that carbohydrates (and fats as well) when exhibited subcutaneously, have no bearing on acetonuria, either in the diabetic or the healthy. He points out that there are great individual variations in the action of fat, due, in all probability, to differences in the intensity of oxidation; but, perhaps, also to differences in the constitution of fatty bodies themselves, and that a decrease of assimilative power for carbohydrates does not necessarily involve an increase of acetonuria.

Quite recently I have instituted an elaborate series of experiments in my own person (healthy man), with a view to determining the quantity of acetone excreted in a period of some forty days, as shown by the amount contained in the urine secreted during twenty-four hours. The conditions were varied.

1. Determination under a mixed diet.

2. Determination under an exclusive albuminous diet, with large quantities of albumen (seven days).

3. Determination under an exclusive albuminous, constant diet, with moderate quantities of albumen (eighteen days).

4. Determination under an exclusive diet of fats (three days), fats and carbohydrates, one day's fasting, etc.; finally, I occasionally took sugar-enemata, with the view of possibly testing either the enterogenous, or the intermediary, origin of acetone.

In order to examine what relation there is, if any, be-

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*Read at the Academy of Medicine, February 21, 1900. Since then an extensive experimental research has been reported by Leo Schwarz, (V. d. C. f. i. Med. 18th Congr., Wiesbaden, 1900), which tends to show that the acetone exhalation is of such importance that in order to establish the acetone balance one cannot possibly do without it. Moreover, Schwarz found that, if the breathing is done with equal regularity in a carefully constructed apparatus, the amount of acetone exhaled within twenty-four hours can be determined with fair accuracy. I therefore purpose to repeat my experiments at no distant time, then including also the acetone of the breath.

† I did not find this in my case, however.

tween acetone and the nitrogen of the urine, the latter was tested throughout (in double tests) according to Kjeldahl, while Messinger Huppert's "very reliable method" was adopted for the quantitative test of acetone. Besides, the double sodic phosphate has been determined. It expresses, according to Huppert, if performed with Lieblein's recent test, the acidity of the urine more correctly than any other method. The ethereal sulphates have also been determined, according to Baumann-Salkowski, as possibly throwing light on the subject. Finally, I searched occasionally for the lower volatile, fatty acids. The results obtained differ, as we shall see, in some important points from those published by other authors. As I have never found either diacetic acid or beta-oxybutyric acid in my urine, though I searched for them daily,* these bodies have been expressed in acetone alone. The absence of these two acids in my urine will be easily understood, however, as I had rather low figures of acetone, whereas Rosenfeld only expects diacetic acid to show when the quantity of acetone reaches 380 milligrammes to the liter. I never reached half that amount. Magnus-Levy also found beta-oxybutyric acid, only when the figures of acetone were high.

But for a free allowance of drinking water, my regimé was strictly regulated, and unsweetened, black coffee, and tea were taken, besides, only in moderate quantities and thin infusions. I determined acteone in the urine only, though Geelmuyden and T. Mueller believe this to be insufficient. However, I fail to see how acetone in the expired air can be determined correctly by putting the patient, for a mere fraction of one hour, before a breathing apparatus. Unless this is done for the full twenty-four hours it must give unreliable figures, for it is hardly credible that the expiration of acetone is as regular one hour as another. Besides, the general conditions of the experiments being always strictly the same in my case, I have some reason to believe that a constant part of the total acetone would show in my urine. Besides, Fritz Voit's report on his experiments with acetone-expiration admits considerable variations in the excretion of acetone by the breath.

In my own experiments the ingestion of fat does not produce any increase of acetonuria (22d, 30th and 31st December). However, I dare not draw any conclusion therefrom before more crucial tests shall have been made in the same direction. A slight increase in acetonuria as compared with the previous day is shown, however, on the second day of exclusive fat-nutrition (December 31st). It is also very strange that in spite of constant underfeeding acetone practically disappeared from my urine, and at the same time I gained in weight! As for the 22d of November, when 600 grams of butter, being my exclusive diet for that day, yielded no more acetone than an exclusive proteid alimentation had done on the previous day, one cannot help believing that it is improbable that organic fat was wasted that day. The amount of (food) fat, supposed to produce acetone, is here equivalent in its alleged action on acetone to the probably much inferior quantity of (bodily) fat wasted on the previous day.

The good influence of carbohydrates is shown on January 1st, when 300 grams of bread, taken with 584 grams of goose-grease, lessened acetonuria to half the quantity of the previous day, when 300 grams of butter and 200 grams of goose-grease had been taken without carbohydrates. This is in accordance with what has been demonstrated by Hirschfeld, Rosenfeld, T. Muller, etc.

* Likewise sugar was never present in my urine.

As for the minor allowance of carbohydrates per mouth, from December 2d to 6th (only 187 grams for all five days), the quantity was, no doubt, too small to yield any effect, and Geelmuyden seems to me right when he says that only large quantities of carbohydrates (150 grams and upward) are able to lessen acetonuria perceptibly, or to make it disappear. I only took these small quantities so as to obtain a contrast with the introduction of carbohydrates by the rectum, in the hope of possibly being able to conclude whether acetone was enterogenous or of intermediary origin. (I must confess that from Hirschfeld's results I had fully expected 50 grams carbohydrates, taken by the mouth, to manifest some effect.) Unfortunately, when I began my work, I had not, with the limited literature at my command, any knowledge of these enemata having been already tried by Mueller,* a year before, or else I should have saved myself the very disagreeable features and the agonizing pains, at times, these rectal injections of sugar (dextrose and laevulose) produced. (I should certainly never be tempted to give any nutritive clysmata of that nature to any patient!). These intrarectal sugar-infusions, which I took on eight days, showed no effect whatever on acetonuria, and, with the well-known anti-acetonic action displayed by carbohydrates, when taken by the mouth, seem to point to the enterogenous origin of acetone. Whether greater doses of carbohydrates, taken per rectum, might possibly have provoked some intermediary effect or not I can't tell. Most probably not. T. Mueller's enemata of 100 grams of sugar were ineffective. It is certainly impossible to bring more sugar into the rectum, within the twenty-four hours, without causing great irritation. This irritation was frequently quite marked in my case. On the two days when acetone seemed somewhat lessened, it was probably due to intestinal irritation, with resulting increased peristalsis, whereby food-stuffs were lost and organic fat wasted (15th and 20th December). This would then point again to the enterogenous nature of acetone.

It is quite clear that several agents are responsible for the presence and the degree of acetonuria. The metabolic process in question may consist of some complicated chemical inter-relations between various intermediary bodies. These are, according to Geelmuyden, fats and carbohydrates. The antagonistic nature of these two foodstuffs would explain the considerable amount of carbohydrates necessary to prevent acetonuria. According to Geelmuyden, it is just as probable that acetone is a product of cellular activity, as is glycogen, which cannot be traced to any "mother substance," and that during an exclusive diet (of albuminous material) the composition of lymph, circulating in the body, undergoes changes which modify the assimilative and secretory effectiveness of the cells, either directly or indirectly, by means of the nervous system. Waldvogel points out that the amount of the substances wasting in the body, and the supply of oxygen, are important, and that in this respect there may be different conditions individually, just as there may be differences between diabetic and non-diabetic acetonuria. Meyer suggests that intestinal decay might be responsible for the production of acetone. But the ethereal sulphates, which we know to be the best index of proteid decomposition in the intestines, certainly do not show any connection whatever with acetone, in my case. Waldvogel

* I held these enemata for several hours (5 to 7) in order to establish favorable conditions for their absorption, while Müller held them for two hours only and found that 50 per cent. of the sugar had been absorbed within that time.

admits that the conditions in the intestine have a great influence on acetone, and that the nature of the contents of the intestines are of importance. But it is quite an open question yet whether the coöperation of the intestine is necessary in the bringing about of every increase or decrease of acetone. According to Waldvogel, decomposition of fat, in the intestine or in the cells of the body, is the essential cause which leads to acetonuria. Inanition, exclusive albuminous feeding, excessive ingestion of fats, loss of power to assimilate carbohydrates, as in diabetes, these are all equivalent to fatty decomposition. Waldvogel believes the bearing of carbohydrates, brought into the alimentary canal, on the decomposition of bodily fat, to be remote, this decomposition being prevented by the presence of substances that are as easily oxidized as carbohydrates. He deems it improbable that acetone is produced in the intestine, but believes, like Jackson, that from fat, introduced into the intestine, the lower fatty acids are formed first, which, when transported into the circulation, can become oxidized gradually to acetone.

According to Jacksch, acetonuria is from sixteen to twenty-six times as high when food is withheld as when food is given. My figures do not show this. However, I draw no conclusion, as this test of absolute fasting lasted one day only. Moreover, in my case, the preceding period of a liberal allowance of carbohydrates may have still exerted its antiacetonic influence. The probable excretion, for a man of my weight and size, should have been on that day, according to Voit, = 370 grams meat and 216 grams fat, and, consequently, a reasonable amount of acetone would have been expected (0.5 grams in the starving, Cetti, in Berlin, examined by F. Mueller).

Ephraim and Meyer hold that organic acids have no influence on acetonuria, while ingestion of alkaline substances increase it. In our case we see no alkaline influence whatever (December 1st). Also, in my experiments, I miss the facts, pointed out by Geelmuyden, Hirschfeld, and others, that acetonuria is less, with an abundant supply of albumen, than with a moderate one. I have no explanation for this fact, except that individual idiosyncrasy may be accountable for that. I might possibly have obtained other results if the period of large albuminous ingestion had followed the period of moderate albuminous feeding, instead of preceding it. But even then a lessening of acetonuria might possibly denote simply the natural, self-regulating tendency of the organism, independent of the quantity of albuminous intake, to adapt itself to new conditions, and to correct as much as possible the effects of false nutrition on the organism, just as Nature does in analogous conditions.

The longest period of exclusive albuminous diet, in the cases observed by Hirschfeld, was ten days, with 700 milligrammes of acetone. My figures of acetone are very much lower than those of Geelmuyden, Hirschfeld, Rosenfeld, and Waldvogel; and I never found diacetic or beta-oxybutyric acid. The effect on acetone of such small quantities of carbohydrates as were used from December 2d to 6th (187 grams in all, within five days), a real "quantite negligable" is not perceptible, as might have been expected.

All the points about acetone are not yet clear. Waldvogel suggests the possibility that the power of fats to call forth acetonuria may be limited only to some of its ingredients, either to the fatty acids, to glycerine, to neutral fat, or else only to certain kinds of fat. Hirschfeld had already observed that glycerine, which we know to be a great glycogen producer, has the same influence as carbohydrates on acetonuria, namely, of diminishing it. Butter contains a considerable amount of lower fatty acids, partly free, partly as glycerine esters. Unfortunately, there exists no quantitative test for the volatile fatty acids, and the qualitative test is extremely lengthy and painstaking, and much time is wasted in looking for them. As my table shows, these lower fatty acids were at times evident in the urine, noticeably on the days the fats were taken.

The formation of acetone in the intestine by fermentation is possible, though not yet surely proven. Lorenz has found, in digestive troubles, acetone in the stomach contents and in the excrements. These cases do not, however, prove forcibly the enterogenous origin of acetone, as the loss of organic fat, from mal-assimilation, is probable. In typhoid, with diarrhea, *e.g.*, the same author found much more acetone than in typhoid without diarrhea. There are, according to Kayser, ferments of lactic acid-fermentation which produce acetone, as a by-product. Magnus-Levy, in his recent investigation on beta-oxybutyric acid, concludes that acetone is derived from fat, either by oxidation or by synthesis, and that it is not formed in the intestine, but more probably in the muscles and the large glandular organs.

F. Voit's more recent experiments on the dog show many features in acetonuria which, while contrasting widely with those ordinarily found in man, are, in some respect, similar to what I noticed in my experiments, *e.g.*, the diminution of acetonuria during starvation. In the dog albumen seems to be the source of acetone, because foodstuffs other than the proteid have no influence on either lessening or increasing acetonuria. Geelmuyden remarks that we are not justified in drawing inferences touching the formation and origin of acetone, from fluctuations in the total exchange of nitrogen or carbon, and though metabolism is altogether prominently of an oxidative and analytical nature, yet it does not follow with absolute certainty, that all excretive stuffs are necessarily products of oxidation of certain "mother substances," derived from constituents of the food or of the organism. Acetone and its acolytes, or eventual precursors of the same, may arise by synthesis as well. As a practical conclusion Waldvogel proposes not to judge the gravity of diabetes simply by the tolerance for carbohydrates, but to examine in what form the fat ingested is being excreted, and to attribute more importance to the lower stages of oxidation of fat as an index of the oxidative power of the patient.

All my chemical work has been done at the Municipal Chemical Laboratory, in Carlsbad, thanks to the courtesy of Dr. Sipöcz, the director of that splendidly-equipped institution.

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THE BEARING OF ALIMENTATION ON THE EXCRETION OF ACETONE. Dr. F. Schuman Leclercq (Carlsbad).

Date 1899	Food	Acetone in Milligr. (Liebelins qualitative iodoform test)	Total N in Urine (Kjeldahl's method)	Acidity (Bisodic Phosphate) (Lieblein's method)	Total P_2O_5	Ethereal SO^4 (Baumann-Talkowsky's method)	Quantity of 24 h Urine	Specific Gravity	Weight in Kilo	Volatile Fatty Acids
Nov. 14	Mixed diet	Trac's	11.2	1.7	2.9		1539	1.022		
15th	"	"	9.9	1.7	2.6		1486	1.018		
16th	"	"	10.7	2.0	3.6		2376	1.016		
17th	"	"	10.8		1.9		1099	1.021		
18th	"	"	13.1	1.3	1.9		1609	1.016		
19th	"	"	19.0	1.4	3.1		1942	1.016		
20th	"	"	15.9	2.1	3.3		1643	1.017		
21st	"	"	12	1.8	2.7		970	1.027		
22nd	"	"	16	1.9	2.5		900	1.030		
23rd	"	"	17	2.0	2.9		2335	1.015		
24th	"	"	10	1.4	1.8		1750	1.017		
25th	"	"	2	1.1	2.3		1465	1.019		
26th	"	"	10	1.8	2.6		1105	1.025		
27th	Exclusive meat diet, 750 grammes	48	19.6	2.7	3.7	0.0948	1345	1.026		
28th	" " 1600 grammes	136	34.1	1.8	4.0	0.1875	2510	1.024	7.0	
29th	" " 1100 "	97	26.6	2.5	3.4	0.2590	1540	1.024		
30th	" " 1250 "	112	27.8	2.4	4.2	0.0595	1495	1.027		
Dec. 1st	1500 and 10 grammes sod. bicarbon.	137	29.0	3.5	3.7	0.3320	1825	1.026		
2nd	1966 grammes and 12 gr. cane sugar	194	32.0	3.9	4.2	0.2763	2595	1.023		
3rd	1500 and 25 gr. cane sugar	159	31.0	3.2	3.5	0.2604	2230	1.020		
4th	1000 grammes (raw weight) of beef, Meat diet: and 50 gr. cane sugar	47	26.5	2.8	3.0	0.2328	1555	1.024	67.5	
5th	and the same	32	31.0	3.1	3.2	0.2411	1515	1.027		
6th	and the same	53	23.0	3.2	3.4	0.2053	2135	1.020		
7th	and the same, *per rectum*	57	20.9	3.2	3.4	0.2187	1355	1.027		
8th	and 100 cane sugar, *per rectum*	50	19.7	3.3	3.4	0.1451	1100	1.030		
9th		82	33.6	3.7	4.0	0.2349	1710	1.025		
10th		80	28.1	3.9	3.9	0.2625	1930	1.023		
11th		88	32.0	3.2	3.5	0.3517	1830	1.025	67.4	
12th[1]		97	12.0	2.6	3.1	0.3221	1705	1.020		+ F; + A
13th	and 50 cane sugar, *per rectum*	94	30.1	3.6	3.7	0.3132	1660	1.026		+ F; — A
14th		89	29.1	3.4	3.6	0.3251	1640	1.027		— F; — A
15th[2]		47	20.9	2.4	2.6	0.2638	1665	1.025		
16th		86	23.2	2.0	2.9	0.3282	1385	1.026		+ F; + A
17th[1]		46	22.7	2.2	2.8	0.2936	1425	1.022	65.4	
18th		53	22.3	2.2	2.5	0.2661	1610	1.022		
19th[1]	and 50 levulose, *per rectum*	85	25.4	2.6	3.1	0.3081	2300	1.016		
20th	and 75 levulose, *per rectum*	34	23.0	2.3	3.39	0.3385	1540	1.025	66.2	
21st[1]	and 100 levulose, *per rectum*	80	28.8	3.0	3.19	0.3516	1625	1.027		
22nd	Exclusive fat, 600 gr. of butter	83	14.2	1.9	2.2	0.2505	1430	1.015		
23rd	Mixed diet	23	15.8	2.1	2.4	0.2160	1165	1.023		
24th to 27th	Rest (mixed diet)									
28th	Mixed diet	18	15.1	1.7	2.8	0.2917	2235	1.012		
29th	No food taken	6	13.8	1.8	2.7	0.1996	1920	1.012		+ F; + A; —B
30th	Exclusive fat; 500 gr. of butter	14	9.5	1.5	1.9	0.1891	1110	1.009		+F; +A; +B[x]; +V
31st[3]	Fat { 300 butter and 200 goose-grease } { 40 levulose, *per rectum*	39	8.8	2.4	2.6	0.1528	490	1.025		
Jan. 1st	Fat : 584 goose-grease and 300 rye-bread	19	9.8	1.4	1.95	0.1160	960	1.014		+F; +B[x]
2nd[4]	200 butter and 500 rye-bread	9	5.6	1.5	1.66	0.1613	580	1.023		
3rd	200 butter, 400 bread, 100 meat	9	7.7	1.5	1.57	0.1895	935	1.025		

[1] Diarrhea.
[2] Stool of acid reaction, contains only little sugar (48°10).
[3] Movements of acid reaction.
[4] Abdominal pain, movements of acid reaction.

+ =present in traces.
— =absent.
F =Formic acid.

A =Acetic acid.
B =Butyric acid.
V =Valerianic acid.
[x] =traced only from odor.

PROGRESS IN TREATMENT OF TYPHOID FEVER.

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THIS paper will be limited to a consideration of some of the measures resorted to in the care of patients affected with typhoid fever.

No specific treatment has yet proven its claim to the confidence of the physician, and I believe it well within the bounds of propriety to assert that those plans of procedure advanced in the past as specific in their effects have, during the past twelve months, lost rather than gained in general adoption.

The eliminative treatment revived in the complicated formulæ of Dr. Woodbridge, or the simpler remedies of Thistle, has not met the test of actual experience in comparison with more generally accepted and known methods; and an analysis of statistics compiled from cases treated by Dr. Woodbridge, and other physicians following exactly the lines laid down by him, warrants only the assertion that the method is productive of practically the same results as are obtained usually at the present time, and not that it is in any sense specific.

The use of cultures of the typhoid bacillus, and of antitoxic serum, has been resorted to both as a curative and prophylactic measure, and recent experiences among the troops of Great Britain have been such as to forbid a too hasty opinion as to their ineffectiveness. Reports are, however, too meager and incomplete to enable much more to be said in their favor than was said a year ago.

It is perhaps the failure of some new plan to be advanced in the recent past that has led to the appearance in medical literature of discussions upon the value of older, and in some instances discarded, plans of treatment, and the exhibition of statistical tables attesting their useful application. One of the most thoughtful contributions is a paper by Dr. Fitz, of Boston, giving in condensed form the results of the treatment of typhoid fever in the Massachusetts General Hospital for the period between 1821 and 1899, and justifying the conclusion that "the average mortality from the disease

has not materially changed from the days of active treatment with emetics, purgatives, venesection, antimony and calomel," down to the present time, and "that the treatment does not differ in essentials from the principles laid down in 1839." The mortality is given for the entire period of decades, and varies from a minimum of 11 per cent. to a maximum of 16.6 per cent. —certainly a curious showing when taken with the fact that the treatment included almost every known plan of medication, and a diet varying from milk to the use of semi-solid and solid foods. Considered year by year the mortality ran from 2.8 per cent. to 40 per cent.—the highest recorded—a range not to be explained by any special measure of treatment, by any known attending circumstances, or by any fact revealed in the histories of the cases. These tables have been utilized to advocate the use of soft solids in connection with liquids as food—the mortality being 11.3 per cent. with these as against 14.6 per cent with milk diet, and 16.6 per cent. with milk and beef tea.

Papers have also been published by other clinicians in an endeavor to bring about a change in our views as to the diet in enteric fever, and of these, the observations of Bushney are perhaps the most interesting. He is an enthusiastic supporter of more varied feeding, and cites his own experience in hospital to show that the use of solid food is not inadmissible, but on the contrary, insures better support to the patient, an earlier and more complete convalescence, a lessened death rate, and no greater tendency to accidents and complications. The mortality in a respectable number of cases was only 8.2 per cent. as against a general death rate of 12.4 per cent. among patients similarly situated, but dieted otherwise.

As a contrast to these views are cited those of Thompson, who adduces the histories of 368 cases treated during ten years past in the Roosevelt Hospital to show that a strictly milk diet offers a relative immunity from some of the most formidable dangers of the disease, and a death rate below the usual average. In his full series the mortality was 6.8 per cent.; or omitting cases dying within a week of their admission—3 per cent. He emphasizes these results with the statement that certain English statistics show that the mortality in ten years ending in 1862 was 18.5 per cent., and for the seven years—1890-1897—still remained over 18 per cent.

These publications have again given prominence to the diet in this disease, and it is to this part of the treatment that I shall first invite attention. It is a necessary preliminary to the attempt to treat any disease that there should be a clear picture of the pathological processes and symptoms, their relationship to each other, their significance individually, and the part each plays in affecting the course and ending of the affection in question. It is not improper to briefly state the salient features of such a picture as it is presented by the typhoid patient.

The disease is a general toxemia caused by the invasion of the typhoid bacillus, which, finding its first lodgment in the lymphoid structures of the intestines, is soon disseminated in the blood and is ultimately present in almost every tissue of the body. The toxic substance elaborated by this bacillus does not confine its action to the production of the characteristic inflammatory lesions of the bowel, nor is it produced solely at this point. It is equally formed in other tissues, and its effects are seen in the disturbances of the nervous and circulatory systems, and of the metabolic processes. It causes the fever, prostration, wasting, delirium, headache, vaso-motor insufficiency and tissue degeneration.

It should be borne in mind that the intestinal changes are not an essential feature of the disease, nor are they an index of the severity of the attack, although they are some of the causes of death. Patients have presented the clinical picture of this affection, and have been found to be the host of the bacillus as its cause, and have yet been shown to be free of the usual structural alteration of lymphoid tissue in the bowel.

Again, the specific germ is the only pathogenic factor; as it has been proven that in the latter stages of the disease other micro-organisms play an important part, not only in determining the extent and character of the bowel lesions, but also in the production of general toxic infection.

The chief symptoms presented during an attack are protracted fever, diarrhea, tympanites, wasting, headache, insomnia, delirum, anorexia, prostration and mental apathy. The disease is self-limited, and death occurs from asthenia, visceral complications, hemorrhage, or perforation, followed by peritonitis.

The digestive tube being first invaded, and continuously affected, suggests the further necessity of a study of the diet, with especial reference to the avoidance of the more prominent features of the disease. It has long been noted that the diet usual to the patient in health was unfit for use, because it was distasteful, rejected, remained undigested, increased the diarrhea, favored hemorrhage and perforation, or was followed by greater distension of the abdomen. That it might influence the activity and character of the organisms present, or that it might be the vehicle by which these organisms were introduced into the canal, was not at first so apparent. In selecting a food for these cases, we should be guided by the following indications:

1. It should be acceptable to the taste, and should satisfy the appetite.
2. It should be retained by the stomach, and should not induce nausea or vomiting.
3. It should be digestible without difficulty, and completely.
4. It should leave no residue to mechanically injure the diseased bowel, or to furnish a pabulum for micro-organisms.
5. It should be so constituted as to meet the special demands arising from perverted and excessive tissue changes; it should supply fuel to replace tissue burnt, and material for tissue upbuilding.

It is admitted that the last named quality is of first consideration—the food must be made to sustain life and maintain structure, or, fulfilling all else, it would be valueless.

Of the forms of food used in this fever we will first consider the solids and semi-solids, as it is here that the greatest interest seems to center at the present time. Nutrients of this class were long ago discarded from general use because experience showed that they were frequently the cause of hemorrhage, and gave rise to recrudescences of fever; favored diarrhea, were followed by greater gaseous distention, and that they apparently increased the tendency to relapse.

We have seen all of these statements denied by the writers cited above, and they are even more positively opposed by Dr. Shattuck, whose cases are included in Fitz's tables, and by other writers. It is now claimed that all and any food leaves a residue to pass over the ulcerated area; that no food is completely digested; that relapses do not occur in recent experiences with solid food any oftener than upon milk diet; that solid foods should not and do not increase the fever. And yet, theory and former experience agree in the fact that a

solid food is less assailable by the digestive juices, contains a larger amount of indigestible substance, and leaves greater residue, not only to mechanically affect the bowels, but also to furnish culture media for bacterial development.

It cannot be denied that indiscreet feeding has frequently caused serious results, or death, in the experience of almost every one engaged in general practice. It seems equally true that exacerbations of fever do result from the same cause, in spite of improved methods and better knowledge in the preparation of foods. And this is what should be expected, if a larger amount of unabsorbed material is passed into the intestines to promote fermentative changes. It can be admitted that the relative importance of the lesion of the bowel wall has been overrated, or even that no lesion may be seen in the production of toxins and the formation of large amounts of gas.

The eliminative treatment is quoted as evidence of innocuousness of increased paristalsis—one of the dangers claimed to arise from solid food—and the argument is sound. But if increased contraction is associated with distention of the bowel by gases and the presence of a considerable amount of fecal matter, its power for harm is greatly increased. That we feed other fevers much more freely and in greater variety is considered justification for such a course here. That we succeed in feeding other febrile affections of similar intensity, even if unassociated with intestinal inflammation, on the diet mentioned, I do not consider as proven. That we make a failure in the attempt to do so in febrile digestive diseases is known to every one. Solid food would seem to fill the requirements for tissue consumption, but they do not meet the other needs mentioned above.

If solid foods are inadmissible for the reasons advanced, it becomes necessary to study the value of fluids intended to overcome these objections, and at the same time fulfil the requirements listed above. And this study has long ago led to the adoption of such foods almost universally by the profession. So far as we are concerned here, they can be divided into three classes: Milk; meat extracts, teas, soups; and farinaceous foods in the form of gruels.

Omitting for the present the first and last, we take up the second class. That they are believed to be able to fill the indications is attested by their common and long-continued acceptance; and yet, in the light of more recent experiences and observation, they do not altogether deserve their popularity. We may with propriety dismiss from our present attention the various extracts and concentrated canned meat juices in semi-solid form—and intended to be dissolved or diluted with water at the time of using; as it will hardly be denied that they contain but little of the assimilable albuminoids, have a large proportion of extractives useless as foodstuffs in themselves, and are deficient in carbohydrates almost to the extent of complete deprivation. There is, of course, a marked difference in bulk value of the water-impregnated foods commonly eaten and an absolutely solid, dry food; but there is no justification for the belief that the value of pounds of meat can be condensed into a teaspoonful of extract. Of the soups, beef teas and extracts prepared from fresh meat for immediate use, more favorable report can be made, and substantiated by experience with them in the daily life of healthy people. And yet there is abundant authority for the statement that none of them, nor eggs, contain proportionally as much solid food as is found in the ordinary cow's milk.

Further, these foods, as ordinarily prepared for the sick, are carefully deprived of fat, and they represent practically only water, salts and albuminous food elements. It is true that for a time they are palatable and acceptable to the patient, do not disgust and do not cause vomiting in many cases, and that they are bound to leave less residue than solids; but they soon pall upon the taste, and it is almost impossible to give them in the amounts demanded by their constitution. That they are readily and completely digested is altogether another matter. To be sure, they are in fluid form, easily accessible to the digestive juices, and, in health, are satisfactorily digested and absorbed, but the ordinary healthy conditions of the stomach are not found in typhoid fever, and there is invariably present a catarrhal gastritis, or, at least, markedly impaired peptic digestion.

This fact is not commonly appreciated, although the vomiting, nausea, anorexia, and difficult digestion are so patent features of the disease. In this condition meat digestion is always impaired—in many instances practically suspended—and the administration of albuminous food in all forms becomes either difficult or absolutely harmful to the patient. Meat albuminoids partly converted into peptones are at times confessedly poisonous, and their danger is only heightened by their absorbability. This is found to be the case not only in gastritis and other forms of stomach diseases, but even in health as a penalty for over-indulgence in food—as is shown by the languor, mental dulness, headache, and other familiar phenomena.

Imperfectly performed meat digestion is not limited in its ill-effects to direct toxic infection from this source, but it also results in the forwarding of a considerable proportion of these unchanged, or partly changed, nitrogenous substances into the intestines, where they come into direct relation with not only specific bacteria, but also with the abundant saprophytic flora always to be found in a diseased digestive tube. Still more mischief is done here by the toxins formed from the food by these bacteria, which are either directly irritant or active after absorption. A consequence of the fermentation, and an index largely of its extent, is the quantity of gas formed, which tends to add to the danger to the weakened and ulcerated tube, and to impair peristaltic efficiency, promote intestinal stagnation, and mechanically impede respiration and heart action. This resultant tympanites has long been viewed by physicians as a particularly unfavorable symptom, and as an indication of continued active progress of the disease; and justly so, if these views are correct. Sufficient stress, however, has rarely been laid upon the origin of this symptom in the ordinary bacteria, and it has more commonly been held as indicative of the extent of the intestinal lesion; or, at best, of the activity of the specific bacteria only.

These fluid meat preparations can hardly be said to fill all of the demands; as they are neither theoretically nor in experience easily and thoroughly digested here; they are capable, in several ways, of favoring or producing toxemia, with its attending dangers; they become difficult of administration to the patient, and, lastly, they are not of suitable constitution nor strength to maintain vitality and repair waste, unless given in quantities far beyond the usual practice, or combined with other substances.

Taking up the third fluid food in our list, we find

cow's milk very generally a constituent of the diet of fever patients, and very largely endorsed as a sole food in this disease. Subjected to the same tests, it fills more nearly the demands given above than any substance hitherto considered, and, I believe, properly used, gives the most uniformly good results in typhoid fever. I have not forgotten that Fitz's tables show no better—and, in some instances, even worse—results under exclusive milk diet, than under the use of other foods; but against this experience can be quoted the statements of Thompson given above. Thompson gave milk, diluted with lime-water, in full amounts, and at regular, stated intervals—and he gave no other food. As a result, he claims, not only the low death rate already stated, but a much more satisfactory progress of the disease, as regards some of the chief symptoms. Diarrhea and tympanites were notably lessened, and so were, to a less extent, hemorrhage and perforation with peritonitis.

The "typhoid condition," as a whole, he declares, was of great rarity, and the nearest approach to it was found in soldiers admitted from camps, and usually after the first week of the disease. Even in these the picture rapidly changes for the better. Delirium, mental apathy, insomnia, fissured lips; dry, brown, coated tongue; sordes upon the teeth, were either not present, or rapidly disappeared. This was in direct contradiction to his former experience with meat broths as diet.

In this respect I am as sure as any one can be, without reference to records of cases, that my own experience corresponds with his. In analyzing tabulated statistics, it should be remembered that very few men have confined their patients absolutely to milk when ordering the milk diet, and their results are correspondingly clouded. Indeed, I have at hand no tables of the results of treatment in a large number of patients who were fed as absolutely upon milk as were those of Dr. Thompson. This fact is emphasized and insisted upon.

To resume the examination of milk, we find that it is the food furnished the growing infant, and we infer that it must contain the essentials for the repair of waste, the maintenance of energy. And the upbuilding of new tissue, and an analysis of this food bears out the inference, as we find it to consist of representatives of each of the classes of food, and in ratio apparently expressly intended to meet the inroads of a tissue-destroying disease. The albuminoids are in such proportionate excess as to be supplied by about one-half the amount of milk required to furnish the stated quantity of carbohydrates needed by a man in full health.

This is significant when it is remembered that common consent seems to be given to the statement that nitrogenous food is especially needed in this affection. The albuminoid constituent of milk demands further consideration, as it is generally conceded that it is especially easy of digestion and absorption. No more striking evidence of this can be advanced than the result of observations made upon the intestinal bacteria in the milk-fed child.

Briefly, it has been demonstrated that the meconium of the new-born is sterile at first—that it becomes rapidly infected from without—that under a strict mother's-milk diet all bacteria disappear, excepting two obligatory forms—that an artificial milk diet causes the reappearance of other forms conveyed by it—which forms again fail to be found when sterile milk from the breast is resorted to. Explanation of this fact is not found in the presence of antiseptic or other protective substances, but in the fact that the casein and albumin of milk are most readily and speedily absorbed; that they furnish little food for any form of bacteria present in the intestine, and that, if uncontaminated beforehand, they remain so during digestion. Indeed. to this easy absorption in the infant, Vaughan ascribes the danger to children of milk already containing the saprophytic bacteria—especially of the peptonizing variety.

Aside from the albuminoids, milk contains a form of sugar most readily of all taken up and disposed of; a form of fat in more perfect suspension and division than in any other kind of food; a due ratio of salts, and a quantity of water sufficient for allaying thirst, promoting diffusion and replacing water lost in fever. In opposition to milk diet, it has been claimed that it is a culture medium itself, and must act as such in the intestine. This cannot be denied, except as to its extent, as milk is by no means as efficient a culture fluid in the intestine as in the open air, and, in addition, it is so readily digested and quickly absorbed as to have little residue to find its way to the lower small intestines. It is again claimed that milk is a vehicle for almost any and all micro-organisms—both specific and ordinary pathogenic—and reference is had to tuberculosis, typhoid fever, scarlatina, etc., in support of the statement, and especial emphasis is given the virulence of toxins in milk-fed children. There is no escape from these facts, and they must be met as an objection to the food in a disease so entirely dependent upon bacterial activity for its results.

Milk does convey germs—so does water and all forms of food under certain circumstances. Milk is a culture-medium. There is none better or more frequently used than meat extracts—and especially in the case of typhoid bacillus. The danger lies in contamination, which can be avoided by an expenditure of the same care as is shown in the preparation of fluid meat foods. The great danger from milk is not seen in its use as a food for adults in health, and these latter are practically exempt from the effects of at least one milk infection fatal to children—the peptonizing bacteria. It is found in children to a less extent than is generally claimed at this time, and is removed by sufficient attention to source and preparation.

The toxins found in milk are comparatively numerous—depending upon the bacteria present—but I am unaware that they exceed those found in meat broths when exposed. So convinced am I of this that I am unwilling to endorse the name "Milk Infection," for the acute gastro-enteric infections of infants. Should a small amount of milk pass undigested through the bowels too much importance should not be attached to the fact, as it does not serve as a mechanical irritant to any extent.

The acceptibility of this substance to most patients has been questioned, and the assertion made that, in itself, it frequently causes indigestion or biliousness, and that at times it is totally refused by the sick. Assuredly, many people have forgotten their early experience with, and liking for, milk, and these have to be taught again its use, and this at a time when appetite is gone, and the idea of food repugnant. Experience has proven that these difficulties are by no means insurmountable, and that patience and intelligent effort will almost invariably lead to entire success.

In the rare cases of poor digestion of this fluid, it should be given at first in small, repeated feedings; should be diluted; should have added a proportion of Vichy or lime-water, or should be submitted to predigestion for a time—or followed by full doses of pepsin, as recommended by Thompson—who gives ten grains of this last-mentioned substance after each feeding.

The taste, when objectionable, can be altered in many ways—by adding caramel, coffee, small amounts of whisky or brandy, or other substances agreeable to the individual.

Buttermilk may be used as a satisfactory and acceptable substitute, and, if fortified by cream, is nearly equal in food value, while furnishing an agreeable variety in taste. The state of dilution so often urged against this food is an additional reason for its use, as it not only promotes digestion and absorption, but insures a full supply of fluid, which must, in any event, be given in some form to supply the constant loss, and subdue the thirst which becomes so urgent in many cases.

That there is any impossibility in fully repairing waste by the solid constituents of milk is disproved by the fact that adults in fairly active life have been fed exclusively upon it for weeks, months, and even years. I am convinced that a common prejudice, the failure to remember that all food is at first repugnant, and a want of perseverance, have led to this food being too easily abandoned, and that the concurrent use of other foods—especially meat fluids—has led to the occurrence of symptoms which have been attributed to the milk.

In all cases it should be given alone at first; it should be given at sufficient intervals—usually three hours—and systematically; it should be given in carefully regulated and measured amounts, and should be modified only when the need is demonstrated. If possible to obtain pure milk, it should be fed uncooked; if doubtful, it should be sterilized—though this last procedure has many drawbacks, and is less needful in adults than with children.

Skimmed milk should not be used, except as one of the expedients to avoid fat-indigestion.

I have for some time resorted to the milk diet in typhoid fever, with the experience that it is not very difficult to give in sufficient quantity, and that it modifies the course of the disease so manifestly as to soon win the patient's endorsement, and his assistance.

The use of cereals in fluid or semi-fluid form has never been general as a reliance in typhoid fever, and more commonly these foods have been classed with the solids, and measurably interdicted. That this is a deprivation to the patient is often in evidence; and that they may be added without injury in many cases is equally true.

Cereals contain relatively small amounts of proteid material, always much starch, variable quantities of sugars, and an amount of indigestible substances of importance in digestive diseases. They are apt to beget tympany, and are for this reason discountenanced, while on the other hand they do not favor the production of toxins—an advantage not to be overlooked. Insufficient in themselves to meet the demands already cited as arising from typhoid fever, the fluid and partly dextrinized preparations may be acceptable, of some food value, and harmless, and they may enable other foods to be more readily administered.

It should be remembered that typhoid is a long continued affection, and that any of the above foods consistently given, leave the patient for this period of time without fresh vegetable juices; and there is reason to believe that this loss is not without bad effect. The nature of vegetable foods rendering them quite inadmissable here, their place should be taken to a very limited extent by their juices—selected with a view to palatability, easy digestion and absence of harmful properties.

I have long been in the habit of allowing weak lemonade, orange juice, the juice obtained from raw tomatoes, and watermelon juice to be given these patients. The last mentioned I have seen greatly enjoyed—and have never seen hurtful in proper quantities. Grapes may be, and are ordinarily allowed, under similar precautions.

Even the best of feeding does not cure typhoid, and some measures must, in default of more perfect knowledge, be directed to the control of the most prominent and important symptoms.

The fever must be kept within bounds to avoid the effects of the hyperpyrexia, the insomnia must be overcome; tympanites must be subdued; diarrhea controlled, and hemorrhage stopped. That all of these are dependent upon a stated, common cause should not be overlooked; and that any of them can be advantageously subdued without reference to others, should not for a moment be believed. And yet a large part of our treatment has been, at times, in this direction; and I regret that proof of this statement can be furnished all too frequently in the practice of many physicians.

Antipyretics will keep down fever, and in no wise affect the course of the disease. Astringents will for a time control diarrhea—but only to a disastrous end, as is generally the case in interference with a conservative process. We are justified in limiting only the excess of these various phenomena, and this is still attempted. A rational attempt in this direction has been the use of intestinal antiseptics; and while these drugs have been but poorly understood, and their efficacy greatly overrated—nevertheless they are of marked value. A full discussion of them here would consume too much space, and they are dismissed with the statement that but little has been added to our knowledge of them during the past year.

In seeking to keep under control the fever, cold water was resorted to; and here for once the originator builded better than he knew. No practice has been more commonly resorted to in fever, none more faultily carried out, and none has so favorably affected the course of enteric fever.

Statistics tell us that the skilful application of the so-called Brand baths has reduced the total mortality of the disease, in hospitals, to about 7 per cent., and while no such good results are to be looked for in every one's experience, the value of the procedure is undoubted.

It is a pertinent inquiry to seek the cause for the greater benefit following this means of lowering temperature, than that accruing from the use of those apparently almost perfect febrifuges—the coal-tar derivatives. That the former is superior is proven by its wider influence; for it not only removes fever, but it induces nerve quietude, promotes sleep, adjures delirium, slows and strengthens the heart, deepens and improves respiration, and increases toxic elimination nearly fourfold. Almost none of these follow the use of antipyretic drugs, except apyrexia and nerve sedation—which partakes more of the nature of exhaustion in character. Of the others, some are not at all produced, or are less present than before the use of the drugs.

In the present state of our knowledge it is apparent that all of the improvements cannot be due to the removal of the direct effects of the hyperpyrexia. It is almost as certain that they are not solely—though largely—due to the reflex improvements of the respiratory function, or to the reflex stimulation of the vasomotors, and indirectly the heart. All of these have weight, but they do not fully explain the effects.

A possible explanation is found in the study of phagocytosis, and especially in the production of a condi-

tion of leucocytosis. The latter is shown to be a protective measure in a number of acute diseases, and in some cases of typhoid. In most, however, it is not present, and in these the course is usually severe. One of the effects of the cold bath is leucocytosis, and it is to this that much of the good results are accredited. Instead, then, of merely abstracting heat from the patient, and relieving him solely of the effects of high temperature, we really induce the very condition to which Nature has resorted in combating the disease by attacking it at its source. This theory certainly seems worthy of further elucidation.

In public hospitals the bath has almost superseded all other antipyretics in febrile diseases, while in private practice this is by no means true. The reasons chiefly ascribed for this are inefficiency, troublesomeness, and the indisposition of patients to submit to the treatment.

The first cannot be seriously advanced in the face of the unanimous statistical proof to the contrary, and it must be held to arise from want of proper application of the remedy. The second need not be considered, if true, for no trouble could be esteemed misplaced to secure such desirable results; but it is not true, for, while demanding time and a little labor, there could be no simpler procedure. The last claim is just: Patients do object, even to the point-blank refusal, abject beseeching, or violent resistance. And yet, in tactful hands, this is largely done away with, and sooner or later every one has the not infrequent experience of being told that, "I hate those tubs, but I know they do me a lot of good."

It is unfortunate that the good effects are more apparent when the bath is given directly with the water at a low temperature; when, in other words, the disagreeable sensations are more pronounced.

This is not always true, however, nor does it imply that the graduated bath is to be lightly valued. Patients objecting seriously are often quieted by immersion in water at 90 or 100° F., where they are kept while the temperature is lowered to 70° or 65°, and thereafter until their own bodily temperature reaches the desired point.

Complete immersion of the body and limbs should follow a record of a temperature of 103°, or even 102.5°, and should last until the thermometer shows a fall almost to the normal. It is not uncommon to find a fall of one or two degrees after removal from the bath, and of this advantage should be taken, especially in those cases complaining greatly of the chill. On the contrary, a rise of temperature occurring occasionally after removal, should not be considered as of too much significance, as it is itself followed by a later fall. Excessive chilling is avoided, or much lessened, by a full dose of ammonia or whiskey, or, better, by a teaspoonful of spts. ether comp., given either just before or after the bath. Constant and vigorous friction of the entire person during the bath also tends to much diminish the chilliness, and to hasten reaction when it does occur.

A very suggestive article has recently appeared in advocacy of the use of splenic extract in typhoid fever, and the author, Dr. Carpenter, of Leavenworth, claims that it ameliorates all symptoms; that, if used early, it is capable of aborting the disease, and that it alone, of all remedies, can claim to be a cure. He ascribes its power to the property of begetting a leucocytosis, and not to nuclein or protonucleins, neither of which he believes to be so effective.

He administers it in doses of five grains at intervals varying with the symptoms and the effect; and he lays especial emphasis upon the necessity for supplementing it by some of the preparations of iron in those cases showing a diminution of red corpuscles and hemoglobin. Time, which has laid away so many "cures," can alone test the somewhat extravagant claims as to the effect of this substance.

ON THE ADVANTAGE OF A NEW TREATMENT IN THE PREPARATION FOR SURGICAL INTERFERENCE IN MALIGNANT DISEASE, WITH ILLUSTRATIVE CASES.

BY FRANK O. WEBBER, M.D.,

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TO the surgeon who is called to pass in final judgment on a case of cancer, the most destructive of all diseases, comes the natural impulse to remove the growth, and if the conditions are those of primary disease, or even an early recurrence, there still lingers in his mind, and troubles his thoughts, the fact that, in all probability, he will be called upon to face a return of the disease, with the only satisfaction left him that he has contributed to this case the best knowledge and efforts at his command. What has been done? Let us take a breast case for instance; suppose a growth the size of an egg, nodular, with slight glandular enlargement in the axilla, with adherence to skin and retracted nipple; patient's age fifty-five years; three years post-climacteric. Let us suppose this woman is in full charge of a large household, with a numerous family dependent upon the maintenance of her oversight. A radical "Halsted" operation is done; the wound heals well, and the surgeon congratulates himself on what? Simply the possibility of removing from this family the immediate difficulty, not of furnishing the cure. For, no matter how skilfully the operation has been performed, how extensive the tissues removed, or how thoroughly the axilla has been investigated, there still is the great dread that in a few months this patient will return for an opinion as to a little hard lump or infiltrated area, that is in all probability the beginning of the end. And, let us be fair; many surgeons feel that the very fact of disturbing the tissues by the knife gives such a pronounced impetus to the recurrence that unless the operative field takes a wide sweep, gets enough skin tissue to insure a removal of all possible disease, includes deep tissue enough to destroy all malignant cells down to the ribs, and is sufficiently delicate and thorough enough, while in the axillary and clavicular region, I say unless this is done (and no man yet has been wise enough to say when it has been accomplished), the chances are against that patient living more than a few years; but the surgeon comforts himself with the thought that he has been as thorough and complete in his operation as any man living could have been, and that everything known has been taken advantage of in this case, and yet he is not surprised at the result, if he finds that he has simply relieved an immediate trouble and postponed the inevitable. Now, how much more advantage can be taken for the prevention of this recurrence, and how much aid can be afforded to surgery, and how can this dread disease be more satisfactorily combated?

The fullest preparation for a surgical operation is a modern necessity. The nearer perfect antisepsis is approached, the better the surgical result. In the removal of malignant growths of whatever form, the more nearly the territory invaded by the knife approaches a condition of health, the more satisfactory the result. The

treatment that I have for a long time thoroughly investigated and proven, does release from activity any territory into which it is introduced, by its local action, and if the system is saturated it diminishes the cell activity wherever it may be manifest, lessening the peculiar angry hue that the surface assumes in malignancy, removing a great deal of the pain, and favorably influencing the whole of the malignant process, besides producing a tonic general effect that is a peculiarity of its own. Marked absence of cachexia follows its use for three weeks or a month. This condition finally summed up offers the best possible opportunity for the application of the knife, the surgical field being sterilized by the local injections, the whole acted upon in a favorable way, promising a lessening of the chance of recurrence, and a possible annihilation of the cell growth.

I base my claim on actual experience, having in many cases observed that, first, when a malignant process is in a state of inflammation the operation is followed more quickly by recurrence; second, cases in which the disease is surrounded by adeomatous infiltration are more liable to recurrence than an inactive growth, and I am fully convinced that in order to place the patient in the most favorable position an operation should be performed at a time when the activity of the growth is lowered, and the infiltration area is reduced to a minimum, and, if possible, the malignant cell growth arrested, or, at least, retarded. For six years a method has been employed by the originator, and for two years I have observed its action, both at my own office and at the hands of more than a thousand physicians, with an almost universal result, after employing this treatment, of an arrest of the disease, which takes place in from three to six weeks. Cell growth apparently retarded, and the inflammatory process checked, adeomatous tissue reduced in extent, and a general improvement of local condition, followed the remarkable tonic effect to the whole system. Then, I claim, is the time to operate, if ever, with the expectation, and the promise, of lessening the chances of recurrence, and with the satisfaction of knowing that all of the malignant process has been arrested and that much of it has been annihilated, and the whole area involved in the surgical process has been, as it were, sterilized by the previous treatment. After the operation I advise a swift saturation of the system, both for its tonic effect, and for future protection. To substantiate these claims I call your attention to the following cases:

Miss A. Nurse. In the summer of '94 she noticed two small bunches in the right breast, but did not call attention to it until the summer of '98. Then she was treated with various alteratives until the latter part of '99. She entered our Sanatorium in 1900. The growths had extended in the last five months. Her general health was very good. This trouble was supposed to have come from an injury, the breast having been severely pounded by a delirious patient. This breast was treated by the "Alexander Method," the injections being made into the cellular tissue around the diseased area and as close into the gland as possible, without interfering with the diseased portion itself. From September 5th until November 1st, when the inflammatory process had subsided, the diseased territory had shrunken considerably, all adeomatous infiltration around seat of disease had practically disappeared, then the lump was enucleated. Patient made a rapid and good recovery, and has been engaged in laborious work from January, 1901.

Mr. B., age 38. Personal history without a fault. History of cancer in the family. May 10, 1899, an epulis appeared between the upper right bicuspids. This was curretted and pronounced at that time benign. October 15, 1899, the epulis had returned and was larger; was curetted and examined and found that it was a myeloid sarcoma, "giant celled with bony plates." A radical operation was advised. Excision, with the loss of four teeth, gum, alveola, periosteum, jaw bone, up to the mucous fold of the lip. Operated Nov. 5, 1899, followed by rapid and perfect healing. January 10, 1900, a rapid growing recurrence in the scar. On June 12, 1900, commenced the "Alexander Treatment," injecting every day into and about the diseased mass. This was continued until July 9, 1900. In June this patient was examined by many surgeons who advised against an operation, as the disease was so extensive that he was promised a liberal recurrence in a short time. After using the "Alexander Treatment" for one month I advised his submitting to an operation, giving the patient and his physician to understand that I believed his chances for recurrence were very much lessened. My advice was taken, and on July 11th the operation was performed; the entire right superior maxillary was removed, together with enough of the adjacent bones to be sure to get all its sutures. The cancerous mass had invaded the antrum, and a curious phenomenon was witnessed on section of the mass; very little active malignant cell growth was discovered; as one man expressed it, it seemed to be almost all dead cancerous matter. On August 6th resumed the "Alexander Treatment," which was continued through the fall and winter at intervals of three or four days. There has been a perfect healing, and the general condition of the patient is reported by his physician as never better than now. There are no signs of the disease. During the late fall he secured an artificial palate, jaw bone, etc., which was ill-fitting, and caused an extensive and curious ulceration of every portion of the surface in contact with it. His physician was alarmed at his condition, immediately removed the artificial palate, and the ulcerated surface healed rapidly under simple antiseptic treatment. He then procured a better fitting apparatus and has now worn it continuously since December, without the least irritation or discomfort. This, to my mind, proves emphatically that if there were any tendency to recurrence the ulceration from pressure from his first palate would have hurried its action. At all events, his physician told me in conversation that he was absolutely satisfied of the absence of any malignancy, as it was proven to his mind beyond a doubt by the early healing and the complete restoration to health of this immensely ulcerated surface. This patient's professional duties compel him to do a great deal of talking, and since last December he has been in absolutely perfect health. Looking into the vault through the hole in the palate, every portion of the surface is a beautiful illustration of the health of the tissues.

Mrs. C., age 32. When five years old patient was the victim of a lamp accident, being badly burned about the face, hands and arms, with an immense area of scar tissue the whole length of the arm, neck and right chest, the arm particularly contracted and covered with dense, firm, cicatricial tissue, giving the forearm and hand a peculiar claw effect, and rendering it practically useless. In December, 1899, a process similar to an abscess occurred under the right arm, which, on being treated, left a sinus under the right arm, just below the axilla, two inches in length, with a small opening, the cavity holding perhaps an ounce. The right forearm, on its anterior aspect, developed a reddened condition, which

soon became nodular, then ulcerated, and finally destroyed the tissues completely, exposing the radius. Came under the "Alexander Treatment" June 20, 1900. The system was thoroughly saturated by the "Alexander Method," and improvement was noticed with the exception of the denuded forearm, which absolutely refused to heal, although treated in the proper manner. The sinus was closing, but would frequently manifest an excitement in its immediate area. In July it was determined to call surgery to our aid. The system was rapidly saturated, and on August 15th the arm was amputated at the upper third, and the cavity under the arm was freely opened and found filled with spongy growths of the carcinomatous type. The cavity was extensive and was thoroughly cleaned and packed with gauze. September 12th the arm was completely healed. The cavity under the arm contracted very much indeed, and on January 15th the report from her husband was, "Fine general condition, the cavity under the arm entirely healed, with the exception of a fine pin hole sinus." This treatment was entirely systemic, with the object of saturating the system quickly to render the whole territory to be attacked sterile and the cell growth inert, and the result has been eminently satisfactory to everyone connected with the treatment and patient.

The points I wish to emphasize in this paper are the facts as exemplified in Miss A.'s case and Mr. B.'s, that the use of the "Alexander Fluid" prior to an operation does dissipate the edeomatous condition surrounding malignant growth. Whatever the degree of infiltration of the tissues, the action of the remedy, if placed just outside of the edeomatous line, reduces the area greatly, causing it to fall back up to the original diseased tissue, or disappear altogether. Again, the examination of cancerous masses removed after preparatory treatment by the "Alexander Method" has invariably proven that the malignant cell growth is reduced in activity from the outside toward the very center of the growth (as illustrated by the enucleation of several breast carcinomas), the report from the microscopist being "that the fibrous tissue seemed to contain, entangled in its substance, what resembled dead malignant cells; at the center of the growth there seemed to be more activity of the cell growth, but impaired activity." In the case of Mr. B. the mass on section showed very little active malignant cell growth, and, as one surgeon expressed it, "It seemed to be almost all dead cancerous matter." Again, assuming that the operation is thorough enough to encompass in its sweep all but a little of the diseased tissue, but that some of the adjacent fatty tissue or lymphatics have become inoculated with the malignant taint, a recurrence is absolutely sure, but with the subsequent rapid saturation of the system, a portion of the fluid being injected into the area surrounding the scar, the possibility of absolutely annihilating the remaining young malignant growths is very great. There is to my mind a certainty that if they are not annihilated they will be retarded in their activity, their growth checked at all events, and the recurrence prevented. This fact is illustrated in the case of Miss A., and emphatically so in the case of Mrs. C. The latter case, involving as it did such an extensive and far-reaching area, would have, undoubtedly, been driven to a rapid recurrence by the emphatic surgical handling that this case received. In the case of Mr. B., his physician, summing up the results of his observation, said that with such a tremendous exhibition of malignancy, occupying such a peculiar situation, he was unwilling to admit the possibility of an operation being successful, and he believed that the only thing that made it possible was the direct action of the "Alexander Fluid" in the preparatory treatment, and the saturation of the patient's system after the operation was performed.

ULCERATIONS OF THE RECTUM.*

BY SAMUEL G. GANT, M.D.

Ulceration of the Rectum.—This patient is suffering with a complaint that is very common in private practice, but not so common in dispensary practice. I hope to show you to-day several varieties of ulceration of the rectum—we have two or three varieties here now. Unfortunately, in a clinic the patients that you want do not always appear at the proper time.

In speaking of ulceration we might say that there are many varieties. We have venereal, traumatic, catarrhal, dysenteric, tubercular, syphilitic, malignant, and rodent.

The venereal variety, that is, ulceration from venereal disease, is not very common in the United States, but is quite so in the Eastern countries, and fairly common in France. One reason for that is that the practice of pederasty is licensed. In this country you rarely see any disease of the rectum which results from this unnatural intercourse. Now you can easily understand how persons who practice pederasty can contract this disease. We find chancroids, chancres, mucous patches, condylomata; of the latter we have two kinds, latum and accuminatum. You would be surprised to find the diffenent causes that have been ascribed to ulceration and to stricture. Several writers maintain that the most common cause of stricture of the rectum is chancroid, in other words, ulcer which is at the anal margin. The most annoying form of venereal ulcer is that which frequently accompanies or is the result of condylomata. I hope to show you a case of this kind before the hour is up. Suffice it to say, however, that chancroids in this country seldom produce stricture. I have seen this in three cases, one here in the hospital.

You will understand that venereal disease may be contracted either from direct intercourse per rectum or during natural intercourse; as the male organ is introduced it may come in contact with the anus, and is easily infected.

Traumatic Ulceration.—There are many causes of traumatic ulceration; perhaps the most common is operations for venereal diseases, fissure, stricture, cancer, abscess, fistula, or any other condition wherein you incise the bowel. It is true the physician is often responsible for a chronic ulceration following operations. After we operate on a patient we should treat the ulceration thoroughly, and heal it up before the patient is discharged. That is why I keep these patients coming here for so long a time, so that I can be sure I have a cure.

There are other causes of traumatic ulcer, such as hardened feces, which is a very frequent cause. If you have an accumulation, which becomes hard, it may cause ulceration of the rectum in two ways. It may accumulate in a large mass and press upon the blood-vessels, and produce necrosis, or when expelled may lacerate the bowel, and produce a fissure, which in time may become an ulcer. Fish bones may also produce the same effect. One of the most common causes is the swallowing of popcorn, and from the hard grains we get a slight abrasion of the bowel, and eventually an ulcer at this point.

Catarrhal Ulceration.—In other words, we have a proctitis, which, if allowed to run, the bowel in time be-

* Delivered at the Post-Graduate Hospital, March 30, 1901.

comes ulcerated. You do not have distinct, deep-seated ulcers, but have more superficial erosion. In chronic proctitis, in some cases you may see the blood ooze out at fifty places.

Dysenteric Ulcer.—That is comparatively rare in his country, but is very frequently met with in warm climates, and I am told it is quite common in China. In this country we call any disease dysenteric wherein we have frequent movements and an occasional discharge of blood, but true dysentery is that form where we have sloughing, and which is invariably followed by stricture.

Tuberculous ulceration is nearly always secondary to tuberculosis of the lung. A patient who has a tuberculous lung coughs up the sputum, swallows some of it each time, with the result that the bacilli infect the bowel. This variety of ulceration tends to encircle the bowel. This form rarely produces stricture, because it does not heal. The prognosis in these cases is bad. Perhaps the most common cause of deep-seated ulceration is syphilis. In other words, about 50 per cent. of all strictures are due to this cause. It is sometimes the result of profuse gummatous deposit, which breaks down, causing an extensive ulceration.

Malignant ulceration is not uncommon in the young, although I have had two cases, in men under twenty-six years old, in the past year.

We find, then, that the commonest causes of ulceration are the traumatic, catarrhal, and the syphilitic.

Rodent ulcer is rare; one sees not more than one or two in a lifetime; they progress slowly, and may require years to destroy an anal outlet.

Case 1.—This man has a thickening of the rectum, and ulceration, due to syphilis. By the way, there is one other form of stricture I wish to mention, that is, stricture caused by membranous bands, where they stretch across the rectum and produce partial obstruction.

Case 2.—This patient is also suffering from rectal ulceration; you will find several thickened folds, with ulcers between them, and you will have to catch the bowel between your fingers in order to appreciate the roughened condition produced by the ulceration. Most of the ulcers are superficial, and easy to diagnose; naturally the mucous membrane of this part of the rectum is smooth and velvety. We must watch this patient very closely, even after the ulceration has healed, as it has a tendency to come back from time to time. The principal symptoms complained of are diarrhea, pain, discharge of pus, blood, mucus, and hemorrhage. The main symptom, however, is diarrhea. Nine out of ten of these patients will suffer from diarrhea, and are vainly treated for it indefinitely by internal medication, when the healing of a small ulcer in the rectum would have cured them. The amount of diarrhea which the patient has depends entirely upon the depth of the ulcer. A superficial ulcer does not greatly increase peristalsis. Hemorrhage from an ulcer depends not only upon its extent, but also upon its location. An ulcer located posteriorly over a branch of the hemorrhoidal vessels will bleed very freely. Another which is superficial and situated between these vessels, will affect only small capillaries, and will bleed only a few drops. The amount of pus, blood, and mucus depends also upon the extent of the ulceration, and upon whether there is a venereal ulcer in connection with it or not.

Case 3.—Here is a case of traumatic ulceration. This man was operated upon for hemorrhoids a week ago, and where each pile was taken off there is an inflammatory thickening of the skin, which will wrinkle up in a short time.

Case 4.—This man, you see, had several large, swollen folds of skin following the clamp and cautery operation, but now the skin around the anus is thrown into natural, radiating folds. He is entirely well, and the mucous membrane is perfectly smooth.

Case 5.—A few moments ago I spoke of condylomata as being one cause of ulceration; there are two kinds. We have the condylomata lata and the condylomata acuminata; the latter are non-syphilitic. The condylomata lata of syphilis spread by contact. If they overlap and touch the skin you may have another mass form at that point. This man has an enormous mass of these warts around the anus, on the penis, and between his toes, which proves their infectious nature. As a rule the condylomata accuminata are not infectious by contact. Condylomata of any form occur only on those parts of the body where there is moisture, and they usually occur about the vulva or anus, and are the result of some discharge, most often venereal.

The treatment of condylomata is comparatively simple, and the course you would pursue would depend upon the consent of the patient and upon the length of time he wanted to give to the treatment. If he wanted to rely upon medicine, it would take a much longer time than a more radical treatment. They have a tendency to increase if let alone. So the thing to do is to remove them entirely, and be sure you do not leave little patches of them behind. They may involve the vulva, buttocks and rectum, and form a mass as large as your hand.

If a man has a syphilitic discharge, or a woman a discharge from the uterus, you must cure that first. The palliative treatment of condylomata consists principally in keeping the parts clean, and using astringent applications. Tannic acid, carbolic acid, and nitric acid render good service. In some cases of enormous masses we have found that by dusting them over with calomel they disappeared in from two to three weeks. The best way to get rid of them is to cut them off, and apply nitric acid or the actual cautery to their base. That is what we will do in this case. We will inject the masses first with eucaine, and then we snip them off with the scissors. The first prick hurts a little, and you will find that eucaine does not produce the unpleasant after-effects of cocaine; can be sterilized as often as necessary, and we have found that a 3-per-cent. solution is entirely satisfactory. Another very good local anesthetic is liquid air. Where the warts are not *en masse*, I usually snip them off without an anesthetic.

Case 6.—If we did not have ulcerations we would have few strictures, so we have practically the same classification of stricture as of ulceration, to which we might add those due to pressure from without and those due to fibrous bands. In this case stricture is produced by a band of fibrous tissue stretching across it. I do not see as many strictures in the East as I did in the West, where most of our dispensary practice was among negroes; then, it was safe to wager that nine out of ten colored people who came to my clinic would have tight strictures, due to syphilis. Strictures in the rectum, as in every other part of the body, have a tendency to recur. We divide strictures, in so far as their shape is concerned, into two kinds, the annular and tubular. The annular stricture is one which involves a very small part of the long axis of the bowel, while the tubular involves several inches.

In regard to the doctor's question, how do I treat rectal ulceration?

The treatment of traumatic ulceration is very simple, but the treatment of dysenteric, tubercular, and syphilitic ulcers is most difficult. You take a traumatic ulcer-

ation; all that is necessary is to keep the ulcer clean and stimulate it with the balsam of Peru, nitrate of silver, krameria, calomel, or other astringent remedies. If a man comes to you with a deep-seated ulceration, which refuses to heal by local applications, the thing to do is to dilate the sphincter muscle and then try the milder astringent solutions; if these fail, cauterize the surface with nitric acid or stick silver; then if he does not get well you will have to resort to operative procedures, curettage, incision, excision, and colostomy, when everything else fails. You need not be so afraid to make a colostomy, as it is not so dreadful as many writers would have you believe; they tell you that people go around with feces discharging all day long. I have made one hundred colostomies, and I have seen nothing of this sort. It depends largely on the way in which the opening is made, and also upon the *education* of the individual; more really depends upon the education than the operation. These patients with colostomies should be taught to have the bowels move in the morning and again at night. Instruct them to thoroughly empty the colon, for if you get only an ounce out, the rest will dribble at short intervals. The patient will get so he can discharge the feces without trouble, and have a certain control over the artificial anus. Another advantage that we have now is that formerly, when a man had a colostomy, he had it for life; now we can make a temporary or a permanent colostomy; the latter can be closed, if we want to, but it is more difficult to close than the temporary. Temporary colostomy you would make for ulceration, membranous colitis, and afterwards restore the natural channel. After a patient has had a colostomy for one or two years we are told the rectum atrophies. That is not true. I have closed one five or six years after, and another three years afterwards, and these patients had perfectly natural stools. The difference between making a permanent and a temporary colostomy is this: In making a permanent colostomy you want to be sure that no fecal matter gets into the lower rectum, by making a spur, for if it does you defeat the object of the operation. In the permanent colostomy you bring the gut well up out of the abdomen; the distance depends upon the length of the mesentery. If very short, you need only bring it out a very short distance, while if it is long bring it out as far as six or eight inches, and after it becomes adherent to the incision you cut it off; therefore, if you wish to avoid a prolapse, leave but little mesentery. On the other hand, when you make a temporary colostomy, you simply bring the bowel up and make a slit in it. When it is desirable to close an artificial anus, after a permanent colostomy, an end-to-end anastomosis, by sutures or a Murphy button, is necessary. In the temporary colostomy you have only to freshen the edges, and bring them together with a few sutures.

I want to speak of another way of closing a permanent artificial anus. I simply take one of these rectal valve clamps and put it on the spur, and it cuts through it, and the feces then go down into the rectum. Then close the skin wound.

The late Justice Smyth said: "I cannot understand why it is that doctors are about the worst witnesses I know of. They are really the very worst witnesses I ever met, with one exception, and the exception is the lawyer. Doctors and lawyers are very bad witnesses. They don't know how to give a direct answer to a simple question."

CONGENITAL DISLOCATION OF THE HIP.*

BY A. M. PHELPS, A.M., M.D.,

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THIS child is nine years old. These cases are the most lamentable with which we have to deal. If these children are allowed to grow up in this condition the female will have a deformed pelvis. There is going to be a shortening of the leg, from 2½" to 7", and she will have lateral curvature of the spine. She is bound to be almost unsexed by it, because such women with one-sided congenital dislocation, on account of the obstruction within the deformed pelvis, cannot possibly give birth to a large baby without the use of instruments. There is obstruction in the pelvis and obliquity as well, which makes labor extremely difficult, and in the double-sided congenital dislocation of the hip the promontory of the sacrum is projected so far forward that it is almost impossible for the woman to give birth to a child. It is for this reason that we are now operating on such cases; the other reason is, that we are absolutely helpless in dealing with these conditions by any other method. All of the bracing that has been done by the great surgeons of the world has not resulted in a cure, nor even in benefit to the patient. And during the time that cures were being reported in this country I asked these men for an opportunity of examining their cases, but I never saw a cure, and it was not until 1894, I think, that I wrote to Hoffa, of Würzburg, that I was going to Europe especially to see him, and to see some cured cases. I wanted to see that case described in his book, if living. He was kind enough to have that case at his office, with others that he could, the only ones I ever saw. I immediately came home and began to operate according to Hoffa's method. The results were not good, for the reason that I had to go through such great depths of muscle. Lorenz at that time introduced the Langenbeck incision, carrying out the plan introduced by Hoffa, cutting down and making a new acetabulum and putting the bone into it. We soon discovered that the anterior incision did not admit of drainage, and these cases did not do as well as they should have done. At this time, on account of the discouraging results from these operations, and on account of the failures attending them, Pachi, of Italy, introduced his plan of putting the limb in the extreme abducted position and enveloping the limb with plaster of Paris and allowing them to walk upon it for two years, when a new acetabulum was said to form. Lorenz reported brilliant results to the American Orthopedic Association. After this most brilliant report he abandoned the Hoffa operation and introduced what he called the Lorenz operation, which is simply a Pachi operation, with perhaps a little modification. He twists the head of the bone around and brings it opposite the acetabulum, and introduces the head of the bone into the acetabulum, and puts the limbs into plaster of Paris.

My colleagues in this country have gone on following this plan. Some of my colleagues in this institution also resorted to the plan, and, so far as I have observed, that operation consists simply in converting a posterior into an interior dislocation. I have seen many cases, in which there is nearly always shortening. In my opinion, the limb will shorten up about one inch after the

*Clinical Lecture Delivered at the Post Graduate Hospital, March 15, 1901.

operation, because the head of the bone will not rest in the acetabulum. The difference between the shortening of the anterior dislocation and the posterior is about one inch to an inch and a quarter.

I have operated on nearly one hundred cases and have put my fingers into the acetabulum and made new ones. In nearly all of these cases they have simply a little dimple, with the capsular ligament pulled out, with an hour-glass constriction. You cannot put the head in the acetabulum on account of this hour-glass contraction. The soft parts are simply wound round the head of the bone until it impinges against the pelvis. I saw Hoffa, in Paris last summer, operate, and he used another incision, beginning just above the great trochanters and extending along the bone, over the neck and capsule, and then the head of the bone is put into this new acetabulum, which is made with a Deyon excavator. As I said, I saw Hoffa do this operation last summer, making the first incision laterally, beginning at the upper border of the great trochanter and introducing an instrument to make a new acetabulum. You will see anchylosis following it occasionally, but anchylosis on one side is not so bad as the deformity, and I do not believe the operation fails in a greater number than 3 per cent.

I have got to enter the capsule of the joint at this point. It is a little above the acetabulum. Extension has not accomplished anything in the last week or ten days, so there is no use in pulling any more upon it. You will remember that I said I would never operate upon another case over seven years of age. This one is nine. You will find that I will have a good deal of difficulty. This operation in a child of nine or ten years of age is quite formidable, as compared with that in a child five or six years of age.

Hemorrhage is comparatively insignificant in these cases, and usually requires very little attention. I am going to cut right around the neck of the bone, detaching the capsule from the neck; then I can rotate the head of the bone out, as you can see; that leads me directly into the articulation. I want you to observe the head of the bone, in the first place, and notice the peculiar characteristics; it is flattened. Every tissue in these cases over six years old is so tense. I have got a big boring instrument, but, in order to get it in there, I would have to make an enormous hole, but I do not like to do it. I may have to. I think the Deyon instrument is the best we have to make a perfect acetabulum with. The hand, as you see, is held firmly in the new socket, and all I am going to do now is simply to pack this wound and put on a bandage of plaster of Paris. The case will be dressed again in about eight days; the wound will be left entirely open.

We have found that septic or aseptic absorption produces a fever. There is more or less synovitis following, and it is better to leave the wound open, and at the end of two or three weeks the synovitis will have subsided, and the wound will be closed by granulation.

This Deyon instrument is an instrument of precision. It makes a perfect acetabulum. I have ligated no arteries. For excision of the hip, I know of no instrument that is so good as this Deyon tube. You make a small incision, about two inches in length, cut away the great trochanter, then set the instrument right against the neck of the bone and bore through, taking the neck and the acetabulum into the instrument. I do an operation now in two minutes that used to take me twenty. You take away not only the diseased bone, but nearly all the capsule of the joint. It takes away the cotyloid ligament, excavates the diseased portion, and leaves no débris. In the old digging operation there was a lot of débris left. The patient is not disturbed until the plaster sets. If you get a relapse in these cases of congenital hip, it is always caused by moving the limb before the plaster sets.

THE PATHOLOGICAL DISTRIBUTION OF THE DIPHTHERIA BACILLUS AND THE BACTERIOLOGICAL DIAGNOSIS OF DIPHTHERIA.

THE Section of Pathology, of the British Medical Association, at its recent annual meeting, presented the above subject for discussion. Its importance justifies an extended abstract. The discussion was opened by Dr. Andrewes, of S. Bartholomew's Hospital (*Jour. Laryn., Rhin., and Otology*), who said that most pathologists would admit that Bretonneau's definition of diphtheria required modification in the light of modern bacteriological knowledge. In one direction it required limitation, for there were grounds for supposing that not every membranous sore throat or laryngitis was due to infection by the Klebs-Loeffler bacillus. In another direction it required extension, for it was clear that many mild and non-membranous sore throats did depend upon infection by this organism. It was the presence or absence of the specific bacillus which was now held to decide whether or not a given case was to be regarded as one of diphtheria. Hence an essential preliminary to the discussion was the consideration of what was, or was not, to be regarded as the diphtheria bacillus. There existed a fairly definite group of bacteria often spoken of as "diphtheroid organisms," which had with propriety been systematized as a definite genus under the name of "Coryne-bacterium." Its members were characterized by a tendency towards a "club-bed" form, and by an irregularity in the staining properties of their protoplasm, due to the presence of granules which are commonly metachromatic, and may even admit of differential staining. Spore formation is not known in the group; its species are devoid of flagella and are non-motile; they stain by Gram's method, and do not liquefy gelatine; in certain cases true branching had been demonstrated.

It had been shown, beyond the possibility of a doubt, that diphtheria depended upon the pathogenic action of a bacillus possessing the above characters. It seemed also certain that there were allied bacilli which were non-pathogenic, or at least were not concerned in the production of diphtheria. While it was of importance to distinguish between these forms, it was also unfortunately true that the genuine organism varied considerably in its morphological characters. A large well-clubbed form, a much smaller peg-shaped form, or any gradation between these types might be met with in clinically typical diphtheria. The toxin produced was practically indentical, and their inoculation into susceptible animals gave the same results; considerable variation in size and form, even in the same colony, might be found; some of the smaller types of the true bacillus bore so close an outward resemblance to allied species—*e. g.*, the xerosis bacillus—that they might be morphologically indistinguishable. Less commonly harmless species were found to mimic the larger forms of the diphtheria bacillus. It followed then that morphological characters alone were unsafe guides for absolute diagnosis. The structural character for which some diagnostic value had been claimed, namely, the differential staining of the granules present in the protoplasm by Neisser's method or its modifications, he had regu-

larly employed for some time, and while a useful confirmatory test, often helpful, it was not one upon which absolute reliance could be placed.

Much the same criticism applied to the common chemical test, namely, the production of acid in glucose broth during the first twenty-four or forty-eight hours. While of very great value it was not an absolute criterion.

The test of highest value and upon which ultimate reliance must be placed, was that furnished by animal experiment. If an inoculated guinea-pig die with the characteristic lesions, the bacillus is held to be the genuine diphtheria bacillus. If no pathogenic effects are produced, the bacillus is held to be some other species, however its remaining characters may approach that of the true bacillus. Short of a fatal result, any pathogenic effects produced are held to be consonant with the belief that the bacillus is an attenuated form of the true diphtheria bacillus.

Such were the opinions commonly accepted, but there were certain points as to the absolute reliability even of animal experiment which were open to argument. If the animal died might it not be due to other diphtheroid organisms pathogenic to the guinea-pig, yet unconnected with diphtheria? It was claimed that there were such organisms, and hence absolute proof could only be attained by showing that known diphtheria antitoxin immunized a control animal against an otherwise fatal dose of the suspected microbe. Again was it absolutely certain that absence of pathogenic power proved that the suspected organism was not the diphtheria bacillus? No one could affirm that it was that organism, but that was different from affirming that it was not. What we knew of loss of virulence in cultures should make us hesitate to deny that such non-pathogenic forms might be lineal descendants of pathogenic bacilli.

It might be that in searching for absolute criteria we were striving for the unattainable, and yet, it was only exceptionally that a skilled observer, carefully applying all the known tests, was left in serious doubt as to the nature of a given diphtheroid organism.

The practical application of this question was of the highest importance. The diagnosis was required under two conditions. It was justly demanded of the man who put forth new facts about the bacillus, as for instance as to its pathoogical distribution, that he should neglect no attainable proof as to its identity. This might take days or longer. More frequently, however, the bacteriologist was confronted with the problem of clinical diagnosis. He knows that the tests for absolute diagnosis require several days, a delay which the physician cannot tolerate, since the latter is aware that every day's delay in the administration of antitoxin means an added risk to his patient, and he is responsible for questions of isolation and disinfection. He wants a prompt assistance or it is of little or no help, hence within twenty-four hours. The former does his best to comply and furnishes the report, and if one might judge from the demand for these reports, they were found to be of assistance in the diagnosis. But it was of importance that physicians generally should apprehend the precise nature and limitations of such reports. It could only represent the pious opinion on the part of the bacteriologist based on the somewhat uncertain foundation of morphological tinctorial and cultural characters. While the probability of the correctness of that report in the hands of a careful and experienced observer might be very high, and justify the physician in taking decisive action, and was therefore of obvious utility, still it should only be taken for what it was worth. It had not the value of certainty too often attributed to it, and the report, in his opinion, should be more carefully worded than was frequently the case. Every bacteriologist had probably placed himself in a false position at some time or another by too hasty assumption of the character of the bacillus he had found, for, as a rule, he knew little or nothing of the source of the material sent him, which might be from a suspicious sore throat, but might equally come from a healthy nose, or even from some non-human source. Malicious tricks had been played often enough.

If it was urged that the physician wanted an authoritative answer on which to base a final diagnosis, the sooner he was educated out of that expectation, the better. There was a growing tendency to place on the shoulders of the bacteriologist the responsibility of the diagnosis, without furnishing any clinical data, or allowing time for the necessary tests. This was partly the fault of the latter, who had loudly proclaimed that they alone could tell what was diphtheria and what not. It was true that, given the requisite time for experiment, they could assert the presence or absence of pathogenic diphtheria bacilli, but ultimate diagnosis must always rest with the physician who knows all about the case and not wth the bacteriologist, who might know little or nothing. Virulent bacilli might be present in the throats of healthy persons in contact with diphtheria cases, and bacilli closely resembling diphtheria bacilli might be abundant in the healthy nose. It was fair to say that the bacteriologist was less liable to error than the physician, much less liable if he is at pains to control his results by animal experiment. Five years ago he had carried out an investigation of some seventy consecutive cases of sore throats amongst nurses—clinical and bacteriological—controlled by animal experiment. On clinical grounds he made an erroneous diagnosis in one out of every nine cases of apparently simple sore throat.

He thought it was a reasonable thing that bacteriologists should be furnished with clinical details, although the physician seemed to think he got a more unbiased opinion by withholding them, but he was sure this was a mistake. He referred to a recent outbreak of diphtheria in a boy's school. The school was dismissed and no scholar allowed to return until cultivations from nose and throat showed absence of the diphtheria bacillus. Between fifty and sixty boys were examined and no bacilli found in the throat, but in about ten cases reports from different examiners stated that diphtheria bacilli (or the more cautious report "bacilli morphologically indistinguishable from diphtheria bacilli") were found in the nose. The boys were perfectly healthy, but the examiners were not told the source of the material and fell into the error. In no single instance did the bacilli have any pathogenic effect on guinea-pigs. Eight of the ten he examined later and found only Hoffman's bacillus or some other allied species, while the other two were tested elsewhere with similar results. Had the examiners known the facts, the parents of the boys would have been spared a serious panic.

Another point worthy of consideration was the weight to be attached to negative reports, especially in cases regarded clinically as diphtheria. In his own experience he remembered a case where the most careful examination failed to find the bacillus, although the case terminated fatally, after the most strenuous efforts, and it was only post-mortem that the bacillus was found in the ventricle of the larynx. Such instances made one hesitate to accept as final the fatal cases where the diagnosis had been membranous laryngitis which have been asserted to be non-diphtherial in character. It was to be regretted that so much of the work which had been done

upon the distribution of the diphtheria bacillus—as for instance, upon its occurrence in healthy throats—was vitiated by the absence of convincing proof as to the identity of the bacillus found. The question of the persistence of the bacilli in the throat after diphtheria was also of singular interest and importance. He had found bacilli present abundantly and in full virulence three months after the primary attack. Another matter worthy of discussion was the relation of the diphtheria bacillus to scarlatinal and post-scarlatinal diphtheria, a subject upon which he had no personal observations to offer.

In the discussion following the above paper one member stated that cases presenting the morphological characteristics described should be isolated and treated antiseptically, whether they present symptoms of true diphtheria or not. He also referred to the statement which he had made when discussing a paper on membranous rhinitis on a different occasion, that such bacilli are frequently found in cases of chronic nasal discharge in infants and children. He had given statistics of 125 examinations, in some of which a post-mortem examination had confirmed the views expressed as to the relation of the Klebs-Loeffler bacillus to membranous rhinitis. Since then he had been able to trace three cases of true diphtheria following the presence of this bacillus in apparently merely chronic nasal discharges. These, of course, might be due to infections from a different bacillus presenting similar morphological characteristics, or to the development of virulence in the organisms found in the nose, though what the factor developing such virulence it was impossible to say.

As an illustration of the necessity for the diagnosis to be largely dependent upon clinical grounds a case was quoted where the culture from a sore throat was reported negative, and yet several members of the family contracted the same disease, and there was no hesitation in saying that whatever the cases might have been bacteriologically, they were clinically diphtheria.

The question had a twofold aspect, the strictly scientific and the practical. The former was a question of biology, which at present could not be properly answered. Two organisms might be alike, but one would produce pathogenetic effects upon the guinea-pig and the other would not, and yet the latter might produce small quantities of diphtheria toxin, and be called an attenuated diphtheria bacillus. Supposing no toxin could be detected, the other characters being present, could it be said that it was not diphtheria bacillus. From a biological view he thought not. The best results could only be obtained by the one stating the results of his investigations, and for the clinician to use these in connection with the results of his own personal observations. The two fields of investigation should not be separated.

The bacteriologist cannot at present do all that the clinician expects, for he cannot go beyond what his methods and the particular state of his science allow, and the more forcibly this is placed before the physician, the better for both. Diphtheria bacilli or bacilli conforming to all tests we are familiar with as characteristic of diphtheria bacilli occurred in milk, and yet the farm, its personnel and the consumers of the milk negatived the conclusion that the bacilli were those that caused diphtheria. T. M. S.

A Georgia coroner's jury brought in the following verdict recently: "The deceased came to his death from a railroad in the hands of a receiver, and the same is manslaughter in the first degree."

INDIGESTION IN CASES OF PHTHISIS

The patient, a man of middle age, was admitted to the University of Pennsylvania Hospital for the first time in 1893, suffering from gastric catarrh, the result of pneumonia, which left him with a bad cough and a bad stomach. His family history is negative. He remained in the hospital only a short time, and left in an improved condition. In 1894 he returned, suffering from the same trouble—that of his stomach. At his first visit carcinoma had been suspected. In 1894 an examination of his stomach contents showed little acidity, and on one occasion on the withdrawal of the stomach-tube there was some bloody mucus attached to the end of it, which shows the impropriety of using tubes with open ends, as they are apt to tear off the lining membrane of the stomach. He was given the Ewald test-meal, consisting of an ordinary dry roll and two-thirds of a pint of weak tea or water. As this did not show any lactic acid in his stomach, it was concluded that he did not have carcinoma, but the Ewald test-meal is not as conclusive as that of Boas, the latter consisting of a tablespoonful of oatmeal to a litre of water, and containing no preformed lactic acid. The patient remained in the hospital two months, when he returned home, remaining there until 1898, using lavage at intervals, when he had a return of his cough and dyspepsia.

On October 6, 1900, he returned once more to the hospital, showing signs of tubercular consumption of the fibroid variety—the variety which develops slowly. At the present time he has a history of indigestion. There is no doubt but that imperfect digestion soon or later favors a low vitality, with the production of a favorable soil for the tubercle bacilli. His stomach shows superacidity and dilatation. He cannot take ichthyol or creosotal so that to do anything for his tuberculosis it will first be necessary to get his stomach in good shape. He has a sclerosis of his arteries, and this is often found in connection with tuberculosis, even in young persons.

Treatment: As the patient has subacidity of his gastric contents, gave him pepsin and hydrochloric acid to improve his digestion, but as he does not bear acids well, it will be necessary to give the latter in small doses. In most of these cases it is best to give the hydrochloric acid by gradually increasing the dose, starting at fifteen drops of the diluted acid, and giving it with a little alcohol. Or a good preparation is as follows: Nitro-muriatic acid, 3 to 5 minims; $\frac{1}{32}$ to $\frac{1}{16}$ of strychnine, and ½ ounce of wine of pepsin. A tablespoonful of whiskey in a glass of water, sipped with meals, will be found one of the most efficient remedies in dyspepsia. Tincture of nux vomica, in 10-minim doses, increasing a drop a day with each dose until you get up to a 30-minim dose, is a valuable remedy, and can be given in conjunction with strychnine. A capsule containing sodium bicarbonate and ⅓ of a grain of extract of nux vomica, is good.

As this man's condition is catarrhal in character, his stomach should be washed out once a week, and he should be given food which he can most easily digest.

The trustees of the Riverside Association announce that the medical director of the Hydriatric Department, Dr. Simon Baruch, will give a course of lectures on "Practical Hydrotherapy," on Thursdays at 2.30 P. M., at the Association House, 259 West Sixty-ninth street. The course is free to the medical profession.

The Medical Times.

A MONTHLY JOURNAL

OF

Medicine, Surgery, and Collateral Sciences.

EDITORS:

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Communications should be addressed to the MEDICAL TIMES, 180 West Fifty-ninth Street, Central Park South.
Published on the first of each month.

Changes of standing advertisements and communications in regard to that department, should be addressed to the Advertising Manager, BENJ. LILLARD, 108 Fulton St., New York.

NEW YORK, JUNE, 1901.

"Labor is discovered to be the grand conqueror, enriching and building up nations more surely than the proudest battles."—CHANNING.

HEREDITY IN CONSUMPTION.

AS we write the Tuberculosis Congress is in session in this city, including representation from every part of the world, gathered together to discuss the prevention and cure of one of the most fatal diseases which has cursed humanity. Confined to no nation and to no zone, to no one race and to no age, it has to a great extent defied human skill and mocked at every effort to check its progress and eradicate its seeds from the human organism. All the factors found in the character of tuberculosis, its inception, its progress and termination, and its connection with new subjects, have been discussed with as much freedom as the present state of investigation will permit, as well as the hereditary tendency to perpetuate itself from generation to generation. Important as are all these factors in investigating this great question, is not the latter, that of heredity, the key-note to the whole subject? Bear in mind that the bacillus of tuberculosis is unlike that of the plague, yellow fever, smallpox, or any of the ordinary infectious or contagious diseases, and that the human system must be subject to a certain amount of depression, a physiological disturbance and a lowering of the vital tone before it loses its power of resisting the enemy. In other words, a healthy organization in mind and body, in which all the functions of life are carried on in harmony, does not furnish the requisite soil for the development of tuberculous germs with their fatal effect. The harmony of the system must first be disturbed, the fountains of life weakened and poisoned by overwork and ill-regulated lives. Of course, every possible effort should be made to protect the public from the transmission of tubercular germs, in hospitals, private residences and public conveyances. In almost every community there can be found weakened constitutions and depressed vitality from a variety of causes which will afford but little resistance to the introduction of latent poison. Another factor in the long list of aids to consumption, which has perhaps been more dreaded and misunderstood than any other, is heredity. The race traits color all history, as seen in the Jew, the Greek, the Chinaman, Tartars, Negroes and Malays. Each race has its own peculiarities, and is stamped with its own individuality. These traits do not run in the blood, and are not bred in the bone. The actual transmission of the germs of disease, except, perhaps, in certain forms of syphilis, where the blood and nerve cells are involved, is a very rare occurrence. Peculiar traits of character and organic development are transmitted from parent to child, and unless carefully directed and held in sharp control may leave the system open to the entrance of the same variety of disease which proved fatal to parental life. Tastes and habits are, to a certain extent, hereditary, but if man is a free moral agent—and who at the present day will deny that conclusion?--there is always sufficient latent will-power to control erring tastes and direct habits and modes of life into healthy channels. Because the parent died of consumption there is no reason why the taint of the disease should be transmitted to the child, or that the child should be powerless to control his future life. But there is a reason, until habits of life are formed on a healthy basis, that the child should hold a careful watch directed by itself or some controlling mind over passions which might disturb the harmony of mental and physical being and their healthy development. These truths, based on facts and scientific deductions, should form a part of the elementary education of every child not only in the home circle but in public schools. Each individual to a great extent fashions its own life, developing and strengthening it on lines which places it in the ranks of the "survival of the fittest," or with those who fall by the wayside, lacking the strength, the courage, the energy of an organization, mental and physical, strengthened by discipline and self-denial.

MOSQUITO EXPERIMENTS.

THE experiments in Havana of inoculating healthy individuals for yellow fever by the bite of the mosquito has become so popular that people are anxious to submit themselves to the test. Fifteen voluntary patients of this treatment this spring not only survived, but were only mildly ill. One in four might have been expected to die. As there are no yellow fever patients just now, Major Gorgas is unable to inoculate any mosquitoes for the benefit of those who are eager to avail themselves of this novel parallel—if it be a parallel—to vaccination against smallpox.

But the experiments will be continued when the unwelcome opportunity affords. The mosquito, after biting a yellow fever patient, is confined in a glass tube.

This bite is harmless until after fifteen days have elapsed. Then the insect bite communicates the germ of yellow fever, it is presumed, through its salivary glands.

It is a fact that at least two of the fifteen patients who submitted to be bitten, and recovered from a mild form of the fever, were afterward inoculated with the blood of human yellow fever patients, and the experiment had no effect upon them whatever.

Future yellow fever patients in Cuba will be barred from the rest of the world by mosquito netting. This investigation, most important as well as interesting, is to be pressed further, not only as to the mosquito, but as to other insects. It is impressive to think what vast financial and commercial interests in all our Southern States, in all our Atlantic ports, and, indeed, in all of our country south of the frost line, may be affected by the discoveries of those who are studying with microscope and test-tubes a most obnoxious but evidently not an insignificant insect.

DR. EISEN'S CANCER GERM.

ABOUT a year ago Dr. Gustav Eisen gave to the public the details of his discovery, of what he believed to be the true cancer germ, as the successful result of prolonged and persistent labor along lines in which many other biological experts had failed. At that time he stated that cancer is caused by an animal microbe known as an ameba.

The cancer germs, for study and examination, were obtained by Dr. Eisen when operations were performed. When a section of the cancer was cut away, the scientist put it in a heated bottle and kept the temperature high until the laboratory was reached. The presence of a perfectly developed germ in every section of true cancer tissue was demonstrated by Dr. Eisen, and the investigator became convinced that the germ was the actual cause of cancer.

Dr. Eisen believes he became inoculated by the cancer microbe while studying the germs through a microscope. About four months ago he became ill with what was at first supposed to be tonsillitis. The disease grew steadily worse and would not yield to treatment. His own diagnosis, and that of physicians who came to his aid, was that it was undoubtedly cancer, and a successful operation was performed, from which he is rapidly recovering. In preparing the microbes for the microscope special care was taken to keep them warm through the whole process of preparation, during which time they may have been introduced into the living organism.

Dr. Harvey R. Gaylord, the director of the New York State Laboratory at Buffalo, working along a different line, claims also that he has succeeded in isolating and culturing the parasite of cancer, and has produced the disease in animals through inoculation. Dr. Gaylord claims that the parasite is a protozoon (a single cell, or group of cells, not separable into different tissues), and that all the organs, including the blood taken from all regions of all patients dying of cancer, including sarcoma and epithelioma, contain large numbers of the organisms. It has been observed, in prosecuting these investigations in all cases of carcinoma and sarcoma thus far examined in which cachexia was well marked, the organisms were detected in the peripheral blood. Heretofore the protozoon, which Dr. Gaylord claims to be the living germ of cancer, has been passed over by bacteriologists as the supposed products of degeneration. If these parasites, as Dr. Gaylord claims, exist through the whole circulatory system in carcinoma and sarcoma, we can readily see why the knife may afford only a temporary relief, often advisable, but the only real cure must exist in destroying the living germs in the general circulation. In this connection we refer the reader to an article of Dr. Webber, in the original department of this issue of the TIMES, worthy of most careful consideration. If his conclusions are correct, they point to what might be considered a specific for the destruction of the cancer germs in the circulation, after the local trouble has been removed by the knife.

FOUNDLINGS IN THE STATE.

THE fatality among the infants admitted to the institutions on Randall's Island, amounting to an annual rate of 80 per cent., attracted public attention to such an extent that a plan was adopted in 1898 transferring the foundlings to boarding houses in the country. The twenty-eighth annual report of the New York County Visiting Committee gives the most encouraging account of the great success of the new work. The report says: The plan of boarding, in carefully selected families in the country certain of the foundlings who do not thrive in the Infants' Hospital, either on bottle feeding or by wet nursing, was continued through the year, with the most satisfactory results. The death-rate among the foundlings boarded in families during the year, notwithstanding the fact that they were selected in many instances from among the most hopeless of the children in the institution, was only 19 per cent.

In January, 1901, the Commissioner of Charities arranged that hereafter the foundlings should be baptized alternately at the reception ward of Bellevue Hospital, and might be removed directly thence to boarding houses, remaining there a longer or shorter period, and then being taken to the country. The effect of this arrangement has been that the foundlings, who, since January, have been taken directly to their permanent homes, are all alive. All this has been accomplished without any special legislation, and there is no doubt equally desirable results could be obtained at Bellevue Hospital under the direction of the present commissioner of charities if left in his hands.

"Too many cooks spoil the broth," and we look with grave apprehension upon the relegating back the hospital management to the Trustees or Board of Governors' system. As this plan does not go into operation

under a year, possibly our legislators may change their minds and leave the present commissioner to work out the reforms so much needed in that hospital.

TRAINING SCHOOL FOR NURSES.

A WRITER in the *New York Sun,* in delving among the training schools for nurses in this country finds that at least one-half of the graduates of all the leading schools in the great cities from the Atlantic Ocean to the Rocky Mountains are from Canada, and suggests that we can well afford to exchange the few heiresses from this country, won by British noblemen, for the excellent material furnished us in the Canadian nurses. While the Canadian girl is now prominent in all the professions in the state her greatest distinction has been in trained nursing. In the most noted training schools and the finest hospitals, the Canadian trained nurse is in place of responsibility and trust. Miss Rykert, of the Post-Graduate Training School for Nurses, is giving a reason for so many Canadian girls adopting nursing as a profession, and their great popularity and efficacy in the work, says:

"I am a Canadian, but that does not prevent my doing my duty by the American applicants for admission. The class before I came here was over 65 per cent. Canadian. Being Canadian myself I am distinctly sensitive lest I may be accused of favoring Canadian applicants. I have discussed the matter freely with the board.

"We cannot admit every one who thinks trained nursing is a money-making profession, and goes into it with the idea of escaping from drudgery of some other kind. If we did, the reputation of trained nursing and of the school would soon fall. A trained nurse to be up to the ideal must be a well-bred woman, of refinement and delicacy, with firmness, tact and good judgment. I am not saying the American girl has not all these qualities. There is none superior to the American nurse when she fills all these requirements. But I wish I could show you a bunch of letters from applicants I now have under consideration. I cannot without violating confidences, but one is from a milliner, another from a former lady's maid and a third from a cook.

"When a trained nurse goes into an establishment with many servants she occupies a peculiar position, and it is found that the American girl, often coming from a home where all domestic labor falls to the mother, and no servant is kept, does not know how to carry herself toward the servants. She causes friction, is too demanding, and wants all sorts of attentions no well-bred nurse expects.

"The Canadian applicants, with few exceptions, come from well-to-do or prosperous families, are well bred in the truest sense of the word, and succeed accordingly. That is one reason why American doctors with the best practises often prefer Canadian nurses. An American applicant, all things being equal, always has the preference with me over the Canadian, because I realize I am in an American institution. Yet, with the best of intentions out of a class of sixteen this year, eleven will be Canadians, although some of those had been accepted when I took charge.

"The subject has been discussed by the heads of the training schools at out meetings. While American girls are clever at books it isn't always the cleverest book student who can follow implicitly a doctor's orders. The head of a large training school was telling an experience that proves it. A Vassar Greek medal girl conceived the idea that she was called to nurse the sick, and was admitted, of course. The head of the training school said the Greek medalist from Vassar lasted just one month, and nearly finished half the patients she handled in that time. Canadian girls have many of the qualifications the Vassar girl lacked. That's why I suppose they have crowded American applicants out."

The best training schools are very careful in their examinations of candidates, and the three months' probation required gives a pretty good idea of fitness and prospect of success. The trained nurse should be a lady of refinement, culture and intelligence, and the trained physician a gentleman in the broadest sense of the term.

PROPOSED NEW BUREAU.

OUR indefatigable friend, Dr. F. E. Stewart, makes a strong appeal for the establishment of a National Bureau of Materia Medica, and the subject will, we presume, be considered at the next meeting of the American Medical Association.

Pharmacy is so closely related to general medicine that a closer fellowship should be encouraged, in order that scientific pharmacy may be recognized by the profession, and the nostrums which abound be ostracized. It would seem proper that there should be some authoritative body, whose duty it would be to investigate new preparations, and at least acquaint the profession as to their qualities, or, perhaps, even go farther than this, say whether they should be sold at all.

It is a question, in our mind, whether Congress can do this, excepting in so far as it relates to articles of foreign production, although possibly, in the case of a trade-mark, it could be refused, unless the preparation which it covers is approved by the proposed bureau of materia medica.

Dr. Stewart states, in his prospectus, that the objects of this bureau are: (1) To establish the standards of the materia medica preparations on the market, and keep them under analytic and pharmacodynamic observation, with the aid and coöperation of the expert chemicts, physiologists, biologists, botanists, pharmacologists, and clinicians connected with the medical schools and colleges and the pharmacists and manufacturers of medicinal drugs and chemicals; (2) to act as the medium of communication between the scientific workers in the laboratories, hospitals and clinics, engaged in the investigation of new materia medica products, and those

engaged in manufacturing and marketing them, to develop the knowledge of their origin, genesis, nature, composition, methods of manufacture, standardization, pharmacodynamic properties and therapeutic uses; (3) to collect the knowledge of materia medica products, reduce it to law, embody it in system, and publish it for the benefit of science; (4) to aid the manufacturers of materia medica products and preparations who conform their goods to recognized standards in the introduction of their brands, to commence by advocating that the medical profession, in prescribing, shall specify those brands which comply with scientific and professional requirements.

ALUM IN FOOD.

THERE has never been any doubt, in the minds of a large majority of the medical profession, that alum in food is injurious and should not be tolerated.

It seems strange that any medical practitioner can be found who would encourage the use of this most deleterious agent in food, and yet we are told there are some. There have been many attempts to prohibit the sale of alum baking-powder, but, so far as we know, Missouri alone has succeeded in maintaining a law of prohibition, which should be on the statute books in every State. No one who has any knowledge of the effect of alum in any form, would desire to introduce it to the stomach very often, even if it has been calcined, combined with, or affected by, some other chemical agent. A product will remain which is not desirable in any way to the animal economy.

In our opinion, the public should be protected against the use of so injurious an agent as alum by legislation.

THE NATION'S DRINKS.

THE amount of money expended in this country for drinks of all kinds is something enormous, that for alcoholics alone exceeding, each year, the interest-bearing obligations of the government. According to statistics compiled by the *American Grocer*, the beverages consumed by the inhabitants of the United States last year represented a money cost of $1,228,674,925, divided as follows:

Alcoholic drinks	$1,059,563,787
Coffee	125,798,530
Tea	37,312,608
Cocoa	6,000,000
Total	$1,228,674,925

Of this grand total, 86 per cent. went for alcoholic beverages, and of this 86 per cent., 50 per cent. was spent for beer, 30 per cent. for whisky and 6 per cent. for wine. The relative cost and bulk of alcoholic and non-alcoholic beverages are indicated by the fact that, while the $125,798,530 worth of coffee used last year made 1,257,985,296 gallons, the $500,000,000 worth of beer measured only 1,221,500,160 gallons.

It is interesting also to learn that, notwithstanding the bigness of the figures we have quoted, says the *Mail and Express*, already stated in these columns, and thus corroborated, the consumption of alcoholic liquors is not increasing. The consumption of spirits has declined from 1.43 gallons per capita, in 1891, to 1.27 gallons, in 1900; the consumption of wine has fallen from .45 to .40 gallon, and the consumption of beer has increased from 15.31 to 16.01 gallons. The nation's drink bill amounts to $16.17 per capita yearly, or an average daily per capita of less than five cents, not counting the money spent for soda water and other non-intoxicating beverages. It is evident from these figures that, while the people spend a colossal sum for drink, the outlay is not burdensome, and that temperance conditions are steadily improving.

DEFINITION OF THE PRACTICE OF MEDICINE.

THE efforts to obtain, from the present Legislature, the definition of the practice of medicine have not resulted in the passage of any law to this end, but they have demonstrated the possibility of securing such an enactment whenever the profession and its friends unite themselves as vigorously as the opponents have done.

If, as seems to be generally conceded, the opposition was worsted in every public hearing, and at every presentation of the question to the public, then the failure was due to a lack of that organized and concerted action which is absolutely necessary to convince the members of the Legislature that a strong sentiment is behind the measure. Experience demonstrates that something more than logic is needed in a fight against quackery, sentimentalism and ignorance.

When opponents threaten the Legislature with loss of votes the profession must show that its twelve thousand members and their friends are to be counted on to offset this supposed loss.

The question seems to be: Is it advisable to secure, through the Legislature, a definition of what constitutes the practice of medicine? If it is advisable, the best men in the profession should join in an effort to educate the public, so that by the time the next Legislature meets its members will sufficiently understand the subject as to be willing to vote in favor of a measure making such a definition.

BELLEVUE HOSPITAL.

THE insane pavilion at Bellevue Hospital, whose condition has created so much recent discussion, is to be abolished, and in its place a separate hospital for mental and nervous diseases is to be established, under State supervision. The abolishment of the Bellevue pavilion, and the establishment of such a State institution, meets not only with the approval of the Department of Charities, but also of the Commission of Lunacy, of which Dr. Frederick Peterson has recently been appointed president, whose influence upon legislation in matters of this kind is very great. Before this

can be accomplished the provisions of the new charter providing for the continuance of the care of the insane by the city will have to be repealed. Inasmuch as the State cares for all the other insane institutions there is certainly no reason why this should be an exception. The Grand Jury has been requested to go to the institution and thoroughly investigate the conditions there. Their report will, of course, cast much light upon statements which have been circulated recently of glaring abuses within its walls, and separate the true from the false. The city will strongly support this proposed change.

THE HOSPITALS OF JAPAN.

DR. EDWARD C. REGISTER, of Charlotte, N. C., in a letter to the *Charlotte Medical Journal*, describes, in an interesting and intelligent manner, the hospitals of Japan. With a population of forty-five millions, and several large cities, it has only ten hospitals, and these are, as might be expected, overcrowded.

Forty per cent. of the patients suffer from tuberculosis; rheumatism is common, and skin diseases rare. It is interesting to note that there are over eleven hundred public baths in Tokyo alone, and it is estimated that four hundred thousand use them daily. The Japanese are said to be very conservative regarding surgical operations, although well supplied with all modern means; are enthusiastic workers, especially in details, and never hurry about anything they have to do. If any of our readers are interested in the subject, doubtless Dr. Register would gladly send a reprint of his excellent paper.

PSYCHO-PHYSICAL LABORATORY.

WE are glad to see that the attention not only of the medical profession, but of the legislators, educators, and scientists generally is being thoroughly aroused in favor of the establishment of a psycho-physical laboratory at Washington, in the Department of the Interior, for the practical application of physiological psychology, to sociological and abnormal or pathological data, especially as found in institutions for the criminal, pauper and defective classes, and in hospitals; also, as may be observed in schools and other institutions. One of the main objects of the laboratory will be to study statistically, and with instruments of precision, the criminal pauper, defective and other abnormal classes. The facts gained by this line of investigation will be of untold advantage. We trust that every medical society, as well as any organization having for its object the development of the human race, use their best efforts with Congress to carry this idea into execution.

ASPIRIN.

AMONG the new remedies which our ever active pharmaceutists have brought into use to meet the complications of grippe and rheumatism, perhaps none have met with greater success than aspirin. The new salt is produced by the action of anhydrous acetic acid on salicylic acid, and is entirely free from the irritating effect upon the stomach sometimes following the use of salicylic acid, and the ringing in the ears and the disturbance of the nervous system produced by quinine. In rheumatic fever and the wandering pains which are apt to follow the congestive stage, sometimes of a neuralgic character, the remedy is of especial value, as well as in the headache, the fever, the aching and soreness of the muscles, and the neuralgic pains of the whole system so often seen in grippe and epidemic influenza. The remedy may be given in fever, 5 to 25 grains, every two or three hours, in solution, dry on the tongue, or, what is still better, in capsules. The freedom of the drug from unpleasant drawbacks makes it a desirable remedy in children and delicate persons.

DATA WANTED.

DR. WILLIAM JEFFERSON GUERNSEY, of 4340 Frankford avenue, Philadelphia, Pa., has sent to the profession, through the medical press, a circular in which he requests answers to the following questions, which will be embodied in a future report:

1. Waiving the question of its efficiency, do you believe vaccination to be sanitary?
2. Have you ever prescribed malandrinum as a preventive?
3. Have those to whom you have given it been subjected to a possible contagion of variola?
4. Have you met with any failures?
5. Have you used it for the effects of vaccination?
6. With what result?

NO CODE WANTED.

DR. CHAS. A. L. REED, President of the American Medical Association, was a guest at the late meeting of the State Medical Society. Dr. Reed is a suave and politic gentleman, and his mission, no doubt, was in the interest of harmony between these two bodies. From what he heard, he must have been satisfied that the State Society would never change its attitude toward the medical code. Dr. Roosa, than whom there is no greater authority on the subject, says:

"There is almost a unanimous feeling in the State Medical Society that the great advance in the creation of a Board of Medical Examiners in our State, which, as has been so often said, has placed New York in the front rank of countries in regard to the proficiency of its practitioners, was only secured by the abolition, on the part of the State Medical Society, of all restraints from free conferences, consultations, and fellowship with all those who the State of New York recognizes equally as practitioners of medicine. In other words, it was the abolition of the code which enabled the profession in New York to secure its law creating a Board of Medical Examiners."

THE NEW COMMISSION.

THE revised charter of the City of New York, passed over the veto of the Mayor, provides that on February 1st, 1902, the jurisdiction of the Commissioners of Charities ceases over Bellevue, Harlem, Fordham, and Gouverneur Hospitals, and their management passes into the hands of a Board of Trustees, consisting of seven members, with the Commissioner *ex-officio*. The mayor must make his appointments from names presented to him from the United Hebrew Charities, the particular council of New York of the Society of St. Vincent de Paul, and the New York Association for the Improvement of the Condition of the Poor, who shall serve seven years and not be removed except for cause, after a careful hearing. The Health Board will consist of the commissioner of health, the police commissioner and the health officer of the port, the department being practically under the control of the commissioner of health as an executive officer.

A FAT BILL.

DR. WALTER C. BROWNING, of Philadelphia, it is said, has rendered a bill against the estate of Senator "Chris" Magee of $190,000, for professional services. The bill covers twenty-one months, and the charge is at the rate of $80 per hour for visits and actual attendance. One item is $17,000, for last summer's treatment at Atlantic City.

DR. JACOB COMPTON BURNETT, for many years the editor of the *Homeopathic World*, and one of the ablest writers on medical subjects from especially the Homeopathic standpoint in England, died recently at his home in London. Among his best-known works are the "Cure of Consumption by Its Own Virus," and "Diseases of the Spleen." Dr. Burnett had a strong personality, and his patients were greatly attached to him not only as a physician but as a friend. His labor in his profession and with his pen was incessant and contributed to shorten his life.

DR. ELMER LEE (*Municipal Journal and Engineer*, March, 1901) suggests a very ingenious method of street lighting, which shall combine the names and numbers of the streets, and give space for the attachment of mail, fire and police boxes, as well as to afford opportunity for placing drinking fountains at convenient intervals throughout the city. The plan seems most practical, and, if carried out, would prove a useful adjunct to the comfort of the citizen. The drinking fountains would certainly appeal to a large class, as promoters of health and temperance.

—The date of meeting of the Mississippi Valley Medical Association has been changed from September 10-12 to September 13-14, and will be held at the Hotel Victoria, Put-in-Bay Island, Lake Erie, O. Address Dr. Henry E. Tuley, 111 West Kentucky street, Louisville, Ky.

BIBLIOGRAPHICAL.

A SYSTEM OF PHYSIOLOGIC THERAPEUTICS. A practical exposition of the methods, other than drug-giving, in the treatment of the sick. Edited by S. Solis-Cohen, A.M., M.D. Vol. I., Electrotherapy, by George W. Jacoby, M.D., in two books. Book I., Electrophysics, Apparatus Required for the Therapeutic and Diagnostic Use of Electricity. With 163 illustrations. Philadelphia: P. Blakiston & Co., 1901.

This is the initial volume of one of the most important enterprises which has ever emanated from the medical press. Comprising a system of physiologic therapeutics in eleven octavo volumes, each prepared by writers of recognized ability, under the editorial direction of Dr. Cohen. The series includes two volumes on electrotherapy, climatology, and health resorts, including the mineral springs, with maps; two volumes, prophylaxis—personal hygiene, nursing and care of the sick, Dietotherapy, mechanotherapy, illustrated. Rest—mental therapeutics, suggestion. Hydrotherapy, thermotherapy, photochraphy, balneology, pneumatotherapy, and inhalation methods. Sciotherapy—organo-therapy, blood-letting, etc., principles of therapeutics, indexes and digest.

If the masterly manner in which the idea of the editor and publisher is carried out in the present volume in scientific detail, clearness of expression, and accuracy of illustrations is a fair specimen of what may be expected from the entire series, too much can not be said in its favor. The series has the additional advantage of forming a small but complete library in itself, in which any subject treated can easily be found.

PRINCIPLES OF SURGERY. By N. Senn, M.D., Ph.D., LL.D., Professor of Surgery in Rush College in Affiliation with the University of Chicago; Professorial Lecturer on Military Surgery in the University of Chicago; Attending Surgeon to the Presbyterian Hospital; Surgeon-in-Chief to St. Joseph's Hospital; Surgeon-General of Illinois; Late Lieutenant-Colonel of United States Volunteers and Chief of the Operating Staff with the Army in the Field during the Spanish-American War. Third edition. Thoroughly revised, with 230 wood engravings, half-tones, and colored illustrations. Royal octavo; pages, xiv.—700. Extra cloth, $4.50 net; sheep or half-russia, $5,50 net, delivered. Philadelphia: F. A. Davis Company, publishers, 1914-16 Cherry street.

The text of this edition has been thoroughly revised and many additions made, among them two new chapters, one on "Degeneration," and the other on "Blastimytric Dermatatis"—subjects which should be included in a text-book on the principles of surgery. Many new illustrations have been added, most of them original. As a systematic treatise on the causation, pathology, diagnosis, prognosis, and treatment of the injuries and affections which the surgeon is most frequently called upon to treat the work has no superior.

A. L. Chatterton & Co. will publish, early in the spring a work on the "Practice of Medicine" by P. Jossuet, translated from the unpublished manuscript of the author by P. Arschagouni, M.D.

Judging from an earlier work, now in the libraries of our older homeopathic physicians, a treatise of rare excellence may be expected.

ECZEMA, WITH ANALYSIS OF EIGHT THOUSAND CASES, OF THE DISEASE. By L. Duncan Bulkley, A.M., M.D. Third edition of "Eczema and Its Management," entirely rewritten. G. P. Putnam's Sons, 1901.

This volume, although based upon a former work, is essentially a new book, entirely rewritten, with many additions. The book is, to a large extent, a personal one, embodying the experience of a lifetime. Dr. Bulkley is recognized as the leading authority in his specialty in the world, and his work is rich in the practical suggestons of an original mind trained in the logic of scientific thought.

MERCK'S 1901 MANUAL OF THE MATERIA MEDICA. A ready reference pocket book for the practicing physician and surgeon. Merck & Co., New York and Chicago. Price, $1.00.

The second edition of this handy little brochure shows considerable augmentation of its contents, which have undergone a painstaking, up-to-date revision. It will be found of the greatest service to those who use the drugs of which it treats, as it contains a vast amount of practical information, such as physiological effects, dosage, etc. It must be seen to be appreciated.

CORRESPONDENCE.

MUNICH LETTER.

To the Editors of THE MEDICAL TIMES:

In Münich I was greatly impressed by the Medicinisch-Klimisches Institut, through which I was shown by "College" Kerschensteiner. In this institution almost every kind of medicinal bath known to German balneology is to be seen—which is saying much! Inhalation rooms of all sorts, even the now discarded "lignum sulfite," are present; there is a room containing nearly every conceivable sort of gymnastic and massage machine—the equipment costing 50,000 marks; here one can go horse-back riding without a horse, etc. It will be interesting to see what is accomplished by the institution under the high scientific supervision. Connected therewith is Von Ziemmsen's Auditorium. How any one not understanding German thoroughly can gain anything from the gallery here is a mystery to me, as Ziemmsen makes some of his most important statements in an "aside," and presupposing a knowledge of the subject.

At the Surgical Clinic young volunteers were doing such minor operations as necrotomies of the sternum, and undergraduates giving chloroform, and yet one is told students get nothing to do in Europe! In the anteroom, stout peasant girls were sacrificing their skin without an anesthetic, and young volunteers transplanting it—and it was all being well done!

In Berlin the vacation course for physicians was liberally attended. Nitze's course on ureteral catherization and cystoscopy was too full. It was mostly attended by older men, Russian, German, Swedish, and English, and even a man from Johannesburg. In spite of this tribute to Nitze, I believe he was more attentive to a few very young American ex-internes, and in the intervals entertained them socially on "how to see Europe," on the large relief map in his ante-room.

For Lesser, Stabsarzt Krulle gives a "cut and dried," honest, military demonstration of the immense genito-urinary and dermatological material of the charity. Cosmetics are not indulged in. Every one gets a chance to do minor operations. Bruhns at Lesser's polyclinic shows, perhaps, too many cases of general skin diseases for the short time allotted. He gives a splendid course.

Lesser's course during the Semester is thoroughly scientific and lucid. Among other cases, he exhibited a nice case of "Aplesia pilorum monileformis." He maintains the tendency to run in families. With others he claims that the turning gray of hair, through sudden fright, etc., is due to the entrance of air into the marrow-substance.

He exhibited mice suffering from alopecia, in consequence of the internal administration of ptyalin. For favus he advises the trial of the "direct light cure."

Lassar devotes considerably more attention, in his lectures, to cosmetics than does Lesser. He is inclined to indulge in the history of dermatology. He emphasizes the fact that leprosy is not nearly as transmissible as is generally supposed.

Heymann, at his polyclinic on nose and throat, advocates the external operation for empyema of the frontal sinuses in opposition to the intra-nasal entrance, and exhibited good results, even as far as cosmetics are concerned.

He showed a good case of leptothrix buccalis. At a meeting of the Berlin Laryngological Society, to which he invited me, there was considerable opposition to the further admission of Americans, owing to the fact that we have not a National Board of Licenses for physicians. Not the only way our separate State Boards hurt young post-graduates in Europe!

Greef, now director of the eye-clinic at the Charité, formerly the sphere of labor of the great Graefe, is a sure operator. He advocates the extensive resection of the optic nerve as a substitute for enucleation in panophthalmitis to prevent sympathetic ophthalmia. He has recently issued a manual on histological technique of the eye. He exhibited a good case of leprosy of the eye, necessitating optic iridectomy.

Silex gives a good course on refraction, which is refreshingly free from pedantry.

Von Michel, recently called from Würzburg, is a splendid lecturer, and has a select material. For beginners in ophthalmoscopy he has a course in which each man gets a live rabbit to practice on. His auditorium is splendid; the most modern scientific illumination is used; he evidently does not care to have his hearers ruin their eyes in studying how to cure those of others.

The lectures of Von Bergmann are encyclopedic; he endeavors to exhaust his subject at a clinical lecture. I have seen clinics more suitable for post-graduates, as there is more operating done. He has introduced the method of demonstrating the reduction of fractures to students under the fluoroscope. He allows students, who are enrolled as "Praktikanten," to do the chloroforming, under his supervision; the number of resuscitations which take place are, of course, very instructive to the spectators.

I had the pleasure of a close inspection, at an operation for carcinoma recti. The tumor was diagnosticated as two finger-breadths from the anus, and with no adhesions to vagina, uterus or promotory. He emphasized the fact that it is such conditions under which surgery of the rectum celebrates its triumphs.

He did the Hueter operation, and resected the sacrum transversely. The tumor was a good handful in size, and somewhat larger than anticipated. It was not, however, one of those difficult cases to combat which the "abdomino-sarcal method" has been devised.

The surgical department of the Moabit Hospital, Berlin, is under Professor Sonnenburg, well known for one of the most elaborate works on "Perityphlitis."

This hospital consists of about forty pavilions, covering a very extensive area. The material here offers a splendid field for the student of appendicitis.

Professor Sonnenburg is a very instructive, careful, deliberate, and studious operator. It is not rare to see him do, in addition to numerous other operations, four operations for complicated appendicitis within an hour.

In the numerous cases I have seen him operate, he penetrates the appendix at its base, ligates one half, and then, with the same ligature, completely encircles the stump; then he ligates again to close the distal portion, and amputates between ligatures, and then buries the stump in the cecum. The Pacquelin I have never seen him use.

The Royal Woman's Clinic is a model institution. Its director, Olshausen, lives in a wing of the structure, a guarantee and comfort to the patients that his supervision will never be wanting. He has a splendid system for visiting physicians: One is inscribed and receives a postal when an operation is to take place (which is 7.45 A. M.); this saves one the embarrassment of coming when one is not wanted. One nearly always sees three or four interesting operations. Antisepsis and instrumentation are simple, scientific, and not foolishly lavish. Vagino-fixation of the uterus, according to Wertheim-Gebhart, is a favorite operation here. As an instance of what his assistants get to do, will relate one case. Olshausen himself was doing a very difficult hysterectomy, complicated with perimetritis suppurativa, and was remarking that he was everting the uterus from above first, as did the first hysterectomists, when an assistant announced an extra-uterine pregnancy in another room, whereupon Olshausen remarked that they usually occurred at night, and that those visitors who were interested could go with the assistant, who, in turn, promptly finished the operation.

One of the courses in Berlin most frequented by Americans is Pick's, on pathological histological diagnosis, where especial attention is devoted to the diagnosis of curettements of the uterus.

Heubner's children's clinic, in the Charité, is exemplary, scientific and practical, and his "household manner" with his patients very instructive to the young man about to enter practice. He lays great stress upon septic auto-intoxication of sucklings. He has given up the intubation in very young infants for diphtheria, having gone back to tracheotomy.

On one occasion he demonstrated a Quincke puncture of the lumbar cord, in a case of hydrocephalus, and considers it a very useful diagnostic method.

I shall close omitting any dicussion of, or reference to, the clinics of Gerhardt, Leyden and Senator, as they are so well known and oft visited, but, for the benefit of others who may anticipate coming to Germany, refer briefly to some of the names of men not located in the "big centers."

At present Halle for Schwarze is probably the center of otological surgery. If we add to this that in Leipzig are Curschman, Trendelburg, His and Tillmanns; in Marburg are Romberg and Behring; in Münich is Ziemmsen; in Rostock is Pfeiffer; in Strassburg are Naunyn and Madelung; in Würzburg are Rindfleisch, Leube, Kirchner and Hoffa; in Breslau are Mikulicz and Flügge; in Heidelberg is Czerny; in Göttingen is Orth; in Giessen is Gaffky; in Jena is Schultze; in Kiel are Esmarch and Quincke—one will see that there are plenty of authorities "off the beaten track," from whom young post-graduates can learn.

Erlangen is a striking example of what the little towns offer. In this little place, known for nothing except its beer, outside of its university, is Strümpell, author of the most widely-circulated and best-known work on general medicine. Tübingen was the cradle of laryngology, and it was from this little place that the German contingent of "Dum-Dum Commission" experts was drawn—notably Bruns.

It is well known that Helmholtz and Gerhardt developed themselves while in the quietude of small towns, and that Röntgen did his work in Würzburg.

The post-graduate anticipating a period of study in Germany would do well to first get a "Minerva," or a "Vorlesunge-Verzeichniss der Universitäten, Technischen und Fach-Hochschulen von Deutschland, Deutsch-Oesterreich und der Schweiz." (Academischer Verlag München.)

Very truly yours,

H. O. Sommer, M.D.

Berlin, February 28, 1901.

SOCIETY REPORTS.

TYPHOID FEVER CASE WITH REMARKS.

Dr. George E. Tytler read an interesting and instructive paper on this subject, before the Clinical Club of New York, on April 19, 1901, substantially as follows:

On Feb. 3, 1901, the writer was called to see Miss S. M., æt eighteen years, student. She had felt slightly chilly; had general aching, severe headache, considerable thirst; temperature, at noon, 105° F. ℞ Aconite followed by bryonia. One dose of calomel, gr. ss. Feb. 4th: Temperature, at noon, precisely the same, 105°, but the patient was more restless. ℞ Rhus tox. Feb. 5th: Restless yet, but thirst more marked again; constipated yet; temperature, at noon, 105°. ℞ Arsen. alb. Quinine sulph. gr. iii, every four hours; gr. ss calomel with sol. citrate magnesia. Feb. 6th: Temperature down one degree, or 104°, at noon; pulse, 100; respiration, 20. ℞ Baptisia, quinine. Feb. 7th: Delirium through the night; deafness greater; seemed more in stupor. Small watery movements, at 1, 5.30 and 8.30 P. M. ℞ Baptisia and quinine; temperature, lowest 102.2°, highest 104°; pulse, 98; respiration, 24. Feb. 8th: Delirium about the same during the night. She had been menstruating four days. Watery movements at 5.30 and 5.45 P. M.; temperature, lowest 102.8°, at 6.30 A. M., highest 103.8°, at 10.30 A. M., and ranged between 103.2° to 103.8° during afternoon and until midnight; pulse, 96-98; respiration, 28-30.

Considerable edema of lower extremities was now noticed, pitting very decidedly on pressure anywhere between the ankles and thighs. It was now the fifth day that I had been calling. With a temperature of 105° to begin with, and no history of several days' illness, I naturally did not suspect typhoid. For a day or so before Feb. 8th it had looked that way. Now, the edema was so considerable and the pains in the lumbar region quite marked, that I had a new puzzle, between acute nephritis alone or typhoid and its albuminuria. There was considerable vesical irritability, very frequent desire to pass urine, with stinging sensation afterward. During the greater part of the time since sickness commenced, there had been some bronchitis. ℞ Cantharides.

Feb. 9th: Quite delirious; stupor deeper; three watery pea-soupy stools during the twenty-four hours; respiration, 34-36; pulse, 98-100; temperature, lowest 103.2°, highest 104°. The examination of urine showed very moderate amount of albumen, no casts nor kidney cells; so concluded that it was simply albuminuria without

positive nephritis. No petechial spots to be seen yet, the sixth day of attendance. ℞ Cantharides.

Feb. 10th: Delirious, restless yet. One watery movement; respiration, 36; pulse, 100; temperature, lowest 103°, highest 104.2°; edema great; frequent urination. Dull and heavy mentally. Total amount of urine, 65 ounces. ℞ Baptisia.

Feb. 11th: Respiration, 34; temperature, lowest 102.4°, highest 104°; pulse, 98; no stool; several very distinct spots on the abdomen.

Feb. 12th: Respiration, 34; pulse, 100; temperature, lowest 102.2°, highest 103.6°; very dull and apathetic. Spots still more distinct and new ones had appeared.

Feb. 13th: Respiration, 30; pulse, 98; temperature, lowest 101°, highest 102.4°; urine, 60 ounces. As many as a full dozen spots scattered over abdomen and thoracic region.

Feb. 14th: Respiration, 30; pulse 96-98; temperature, lowest, 101.8°, highest, 102.6°; urine, 58 ounces. From February 14th there was steady, gradual improvement. February 19th, temperature rose 1°, but the patient improved steadily, and on February 28th temperature went up 1.8° without discernible cause, no error in diet; convalescence after that was steady. This case was one in which the temperature either ran contrary to the Wünderlich typical typhoid one, or else the patient had been walking around with the disease for several days. Though she had not complained much, the temperature might have gradually climbed, in its usual manner, to the point 105. Goodno, in 1886, attacked the typical temperature curve.

Another point of interest in the case was the great amount of edema, with some albuminuria. The patient was not at all anemic, to help cause the edema. In fact, rather to the contrary, a healthy, ruddy, young woman. The albuminuria came on within four days of my first call. True nephritis is not apt to be so early in typhoid —toxemic albuminuria may be. The patient had, with the exception of the temperature curve, about as many characteristic symptoms and conditions of typhoid fever as we often meet in one case.

The pulse was never very high, 80 to 100 only, once 106. The spleen was somewhat enlarged. She had tympanites, ileocecal tenderness, decided eruption, epistaxis, derangement of nervous system and bronchitis.

I have referred to the edema. This feature, beside making one think of nephritis, necessitates differentiating between typhoid and trichiniasis. The latter disease has pasty taste, nausea, dry, coated tongue, abdominal tenderness, diarrhea, tympanites, prostration, and edema is a marked feature. The fever is also mild at first, and in about a week, upon migration of the young trichinæ, the temperature rises, so the picture is not so very different from typhoid, and especially in a case with the edema. The condition of the pulse helps in trichinæ poisoning, being quick, generally 100 to 130; temperature may reach 104, generally not much over 101. Spleen not generally enlarged, and no eruption. Inclined to perspiration in both diseases, greater though in trichiniasis. The eruption in this case was first seen upon the eighth day of my attendance. The spots were clear—beautiful, unmistakable ones. Of the cases in the Royal Victoria Hospital, in 1899, during an epidemic, the eruption appeared, in the earliest case, upon the fourth day, the latest on the fortieth. Duration of eruption was, shortest three days, longest twenty-seven days—average eleven days. In the cases under my observation the eruption has been of not more than a few days' duration.

The bronchitis brings to mind another condition that we have to be on our guard against—pulmonary tuberculosis—for both have insidious fever, cough, prostration; and in any case of doubtful, continued fever we will do well to ascertain if we can exclude tuberculosis, and, by the by, diagnosis by exclusion is something we have to do quite often, especially in typhoid. In this case the fact that the patient showed perfectly clear apices, no bronchial breathing nor increased fremitus, was given importance.

Patients with valvular lesions are liable to infective endocarditis and myocarditis, which may turn the scale in the fight with typhoid. The writer commenced to attend a case November 18, 1900, where there had been an aortic murmur for years, probably from childhood, as at that time he would often cause alarm in school by his looking so blue. His attack of typhoid weakened the heart, so that from the seventh to the forty-seventh days of the disease there was time after time when heart failure was prevented only by the greatest watchfulness and use of cardiac stimulants.

The older definitions of typhoid fever were quite lengthy. A late definition is condensed to "infection with bacillus typhosus," which has the merit of nonlimitation and not laying particular stress upon the abdominal lesions and symptoms, for the infection may affect other organs intensely and dangerously and yet the abdominal lesion be comparatively slight. Lobar pneumonia of typhoid may present no pneumococci in the sputum, and this fact was wondered at until it was found that the typhoid bacillus of Eberth could cause the pneumonia directly, and even without the intestinal lesion being present. Eberth pneumonia is apt to appear earlier in the disease than the pneumococcic.

Quain's Dictionary, 1883, says: "Kleb claims to have identified a specific typhoid bacillus, which he has found not only in the blood and the lymphatics, but in the tissues, and it is probable that this discovery will be confirmed." The same authority also says, "it is accepted on all sides that the typhoid poison is reproduced in the system during the fever, and that its chief, if not exclusive, outlet is in the intestinal discharges. There is no evidence that it is conveyed at all by the breath or perspiration, or by the urinary secretion." The prediction as to the confirmation of the existence of a true typhoid bacillus has very certainly come true, but, on the other hand, investigations have shown that the urine is the carrier of large numbers of the typhoid bacilli. In fact, during the later stages and convalescence the urine carries manifold more than the feces even, and quite recently it is considered that contagion may be acquired through contact in the room, independent of bacilli from stools or urine, and that especially in crowded quarters it would be much better to remove the patient, even on account of the welfare of others, as well as his own better care, to a hospital. Attention to disinfecting the urine would appear not to be amiss. Internally, urotropin, .50 doses t. i. d., has a very beneficial effect.

The length of, and tenacity of, life of the typhoid bacillus outside of the body makes it difficult to prevent contagion, lying dormant, as it does, for long periods, and then under favorable conditions causing disaster. The typhoid bacillus will live in water, sterilized or unsterilized, for two or three weeks; in the superficial layers of the earth, for five or six months. It will even survive freezing and thawing several times. While inhalation in the lungs of dried dust, containing typhoid bacilli, may possibly be harmless, yet they may lodge in the mouth and so be taken with food or drink into the intestinal tract, or dust may contaminate food or drink before use.

In the insane asylum at Northampton, Mass., an epidemic was unmistakably traced to the use of celery grown on the farm where sewerage was used to spread on the beds. At the institution there had been, in ten years, only four cases—then, in five days, fifteen cases.

At the suggestion of Dr. Fuller, of the Maryland State Board of Health, Dr. W. Royal Stakes investigated to determine the question whether domestic animals might not play the part of hosts of typhoid bacilli, and thus aid in their dissemination in water, etc., analogous to the case in anthrax, vaccinia, glanders, rabies, tuberculosis, malaria, trichinosis, and others. Two chickens, two white rats, two rabbits, two guinea-pigs, one calf, and two pigs were given large quantities of typhoid bacilli in their daily food. Although 500 tests were made from the feces, typhoid bacilli were found in none of them. They, therefore, concluded that the "typhoid bacillus cannot, as a rule, maintain its struggle for existence in the intestines of the domestic animals, and that the dejecta of animals play no part in the distribution of typhoid fever," which conclusion encourages us all the more to use all means possible to disinfect the excreta from typhoid fever patients—the probable cause of spreading contagion. In the case reported, with the exception of quinine during the first few days and a few doses of an antipyretic during the same period, not to reduce the fever, but as a palliative against the severe headache and general muscular pains, the treatment was with small doses. Almost my first typhoid fever case was of the cerebral type, in a young medical graduate. I had plenty of help in way of consultation, but it resulted fatally. Of one whole medical class the student who would have been picked out as the best specimen of perfect health and physical strength, I heard died of typhoid in less than a year after graduation, so, in my early days, I started out respecting the disease as a masterful enemy. Then for many years I got through nearly all my cases very successfully, and without extra trouble and worry I felt quite easy in treating it. During the past three or four years, among other cases, I have had two fatal ones, and my confidence has dropped a few degrees again.

As to diet, for a long while I preferred milk. Of late, have allowed other articles. Would like to learn the experience of others as to diet, especially if they have tried meat broth mixed with barley-water strained, during the height of the disease. It is thought that it does not afford so much of a harbor and culture medium for the growth of the typhoid bacilli as milk does. Of course broth is a good enough culture medium outside the body, but it is more quickly absorbed, and does not lie so long in the intestinal canal as hard milk clots, in which the bacilli may remain and grow.

The writer has carried a patient through the whole three and a half weeks of typhoid on kumyss alone—no other food. The patient was one who could not bear the thought of milk in any other form. She did well, with no relapses. In other cases, have used kumyss in connection with other food. In the case reported this evening the patient was rather fickle and squeamish in her appetite when well. We began with milk in this attack of fever; she did not like it at all, and I thought that it did not appear to be very well digested. We then let her take a prepared food, containing albumen, cereal, and milk. It agreed with her, yet she did not relish it, but in view of her reputation for being very hard to cater to when well we concluded that she might as well take that preparation as any other. The writer has liked a diet of peptonized milk, and other more or less predigested, prepared foods.

He has been quite timid about allowing animal food, in even liquid form, until morning normal temperature shall have been present for nearly a week, and not very high afternoon or evening temperature.

The writer has used tubbing some, but tries to get along with sponge bathing. Likes to have the patient take all the cracked ice he will, and hold in the mouth until melted. Puts small ice-bags in palms of hands and against the wrists. Lets him drink all the water that he will. Is skeptical, though, as to the value of distilled water, fearing that it dissolves salts from the tissues to too great an extent, preferring some good spring water.

The writer individualizes and values the remedies as indicated. As adjuvants, he uses antiseptics, salol, and mercuric bichloride tablets. Would ask the experience in use of guaiacol carbonate in the disease under consideration. Has not used the Woodbridge method in its entirety. Has used gr. ss, doses of calomel, and a laxative occasionally. In this case a small blister was put on the arm, on the eighth day, and a capillary tube was left with the nurse to fill toward bedtime, and mail for bacteriological examination, but enough serum was not obtained, and by the next day clinical diagnosis was sufficiently clear, so that we did not trouble farther.

Where the diagnosis appears to lie, during the first few days, between typhoid and malarial fever, is it not well to have an examination of the blood made, for evidence of the presence or absence of the malarial parasite?

In addition to intestinal antisepsis it is useful to add that of the mouth also. Beside avoiding contamination of air that the patient breathes and depends upon for oxygenation of the blood, it helps to lessen the danger of infection of Eustachian tube and middly ear.

The bacilli of typhoid and other diseases are supposed to cause the formation of a substance in the blood which has the property of antidoting the bacilli of that particular disease. This product, called an enzyme, acts slowly at first, not as fast as the bacteria develops, later more rapidly, so that its power about equals the growth of the bacteria, and still later much more rapidly than the bacteria, thus overcoming them. The serum of the blood now has the property of andidoting the bacilli in outside culture media, and it does not appear utopian to hope that the vaccination for typhoid may yet prove successful. Its trial during the war in South Africa appeared to show that the proportion of those inoculated, subsequently contracting typhoid, was only about one-fourth to one-fifth of those not inoculated, and even then the inoculation appeared to mitigate the severity of the disease.

The present epidemic at New Haven has come from contamination of one of the sources of the city water supply, and forms another case emphasizing the importance of every community using all possible means to prevent such occurrences, not only from a point of view of life and health, but even on business, economic, and financial grounds.

Discussion.

In closing his paper, Dr. Tytler asked the members to express their views, especially on the question of diet, bathing, and the use of guiacol carb.

Dr. Cossart said he had used both milk and broths, because he had found that many patients could not take milk.

Dr. Root said he also used both milk and broths, always trying the milk first, either peptonized or plain. He spoke of the use of bananas in typhoid, and said he

had used them a great deal, with what he thought good results. His attention was first directed to them by a physician who met him in consultation in a case of nephritis, and who suggested that he try them in typhoid. He spoke very highly of guiacol carbonate, and said he would not omit its use in typhoid. He used it in 4 grain doses, every six hours, together with baths, either tub or sponge.

Dr. Chapman used milk, if possible; if not, then broths.

Dr. Ostrom said, because of the failure to recognize the time at which perforation took place, he did not think that operation in cases of typhoid perforation offered much hope for the patient. The general condition of the typhoid patient, plus the shock of the operation, which necessarily involves considerable manipulation of the intestines, made him hesitate to operate, unless the case could be seen within a short time after perforation.

Dr. Rickaby asked Dr. Tytler if he restricted the quantity of water, when the patient had watery stools?

Dr. Demarest said there was no disease in which the idiosyncrasies of diet were so prominent. Did not believe in beef tea, because, in his opinion, it contained little or no food value. Believes in large quantities of water, as it assists in the elimination of the poison. Had not used bananas, but had given grape juice or orange juice.

Dr. Carleton called attention to the fact that recent observations had shown that typhoid bacilli often continued in the urine many years after an attack of the disease, Hubner reporting a case where they continued four and a half years, and Busclika, as well as Flexner, one of seven years. When urotropin has been administered, together with douching the bladder with bichloride of mercury, 1 to 10,000, they disappeared, and did not return. Five per cent. solutions of boric acid have no effect.

Typhoid bacilli do not generally appear in the urine before the third week of the disease, in 20 to 30 per cent. of all cases, when they may become so numerous as to produce a cloudy appearance of the urine, and, without antiseptic treatment, may infest the urine for months or years, often in chronic cases producing no symptoms, yet capable of infecting others.

Dr. Klots believed that when the disease spreads there was not sufficient antiseptic precaution taken to prevent it. Has found the bacillus in feces, urine, and tears. Thought salol a better drug than urotropin. It controls the tympanitis, and at the same time will control the growth of the bacillus. Urotropin acts admirably in disinfecting the urine. Salol does this, and, in addition, is an intestinal antiseptic. Had found that milk could at times be taken at the temperature of the body when it could not be taken cold.

Dr. Honan thought too much stress could not be laid on the early diagnosis of the disease. Did not believe much in broths, but favors predigested milk. He believed in a treatment that was antiseptic and eliminative, and if such a course were adopted the patients did not become so critically ill as in other modes of treatment, though they had to be kept in bed the same length of time. He favors operative interference in cases of perforation, and a modified form of the Woodbridge treatment.

Dr. Harrington said it was his custom to give small doses of calomel early in the disease, because the effect of clearing the bowels and acting on the liver seemed to lessen the severity of the attack. Had used almost exclusively milk in some form, usually peptonized. In some statistics, recently published by Dr. Osler, he had reported a percentage of 30 per cent. of recoveries out of about eighty cases operated on for perforation.

Dr. Tytler asked Dr. Carleton what he thought of urotropin as compared with salol in the disinfection of the genito-urinary tract? Dr. Carleton replied that he favored urotropin. Dr. Carleton said salol, in 2 grain doses, is often beneficial, but as it sometimes irritates the kidneys he prefers urotropin, which he considers the best known urinary antiseptic, as it acts directly upon the pus present, and, while it does not kill the microorganisms and spores in the urine, it prevents their development.

Dr. Tytler said that for intestinal antisepsis he had used salol more frequently than any other medicine. Uses it generally in tablets of 2½ or 5 grains. He knows that they remain partly undissolved throughout the intestinal tract, as he has had patients pass only partially dissolved ones in the stools. For that reason he prefers tablets to the powder alone, or powder in capsules, as he thinks that the gelatine capsule quickly dissolves, and then the powder may be absorbed mainly before reaching Peyer's patches. His experience has led him to rate urotropin superior to any known antiseptic in its action on the whole genito-urinary tract.

NOTE.

Dr. Harvey Cushing, of Johns Hopkins, has probably uttered the latest word on this subject, which is, "that the greatest percentage of recoveries has occurred among those cases operated upon during the period from eight to twenty-four hours after evidence of perforation."—ED.

The Medical Society of the County of New York.—Dr. Prince A. Morrow read a paper on "The Prophylaxis of Venereal Diseases in This City: Medical Aspects of the Social Evil." He said it had been estimated that fully one-eighth of all human suffering could be traced to venereal diseases and their results, and that gonorrhea was, with the exception of measles, the most widespread of diseases. Fournier found that upward of one-seventh of the population of Paris was syphilitic. Out of 68,331 British soldiers stationed in India, the admissions to the hospitals for venereal diseases were 36,881, or 53.7 per cent. Of this number, 25.9 per cent. were cases of syphilis. Some German authorities assert that 80 per cent. of all deaths from uterine diseases were from affections of gonorrheal origin. Blenorrhea neonatorium contributed to our blind asylums from 10 to 20 per cent. The frequency of marital syphilis was not generally known, or even suspected. Fully 70 per cent. of his own cases of syphilis appeared to have been of conjugal origin.

In this country there is not one city in which these diseases were subjected to sanitary supervision. The syphilitic was twenty times more active as a disseminator of contagion than the consumptive. The present policy of inaction seemed to be a confession of our inability to deal with these dreadful scourges of the human race. It was probable that sanitary authorities were largely deterred because of the strong public sentiment against the legal restriction of prostitution. Many statistics could be adduced to show that the regulation of prostitution diminished the spread of contagion, and he told of the difficulties encountered in attempting this. It had always seemed to him a rank inequality of justice to submit the female offender to surveillance and allow the equally guilty male offender to go free. The most violent opposition to this system of regulation of

prostitution had come from religious sects, who looked upon the licensing of such an occupation as putting a premium on debauchery. In this city the crusades against vice have too often been mere campaigns of force, resulting in changing the locality and directing prostitution into new channels, but without diminishing the volume of this evil business. The arm of the law should be evoked in suppressing low dance halls, in raising the age of consent to twenty-one years, and in meting out the severest punishment to the men and women who made a business of selling human beings into something worse than slavery. Public opinion forbade the establishment in this country of the Continental system of restriction. It had been tried in St. Louis for about one year, but had then been swept from the statute books by an avalanche of protests, principally from women and the clergy. Incredible as it may appear, there is not now, in this great city of ours, hospital accommodation for more than one in two thousand of the prostitutes. Appropriate treatment constitutes the best form of prophylaxis. The feature of forcible detention was obnoxious. The great point was to remove the ban against this class of patients. The plea made by many hospitals, that venereal diseases were excluded because they were contagious, was a mere pretext. Every hospital receiving municipal assistance should be compelled to open its doors to these people. A large proportion of syphilitics were ambulatory cases, and should be treated at the private offices of physicians, or at dispensaries in convenient parts of the city. These services should be conducted with all the privacy possible, and the cardinal principle be kept in mind that every case was a focus for the dissemination of the disease. A good deal could be accomplished in the way of prophylaxis by a properly conducted campaign of education. In public practice it was impracticable to give such instruction except by handing each syphilitic patient a printed pamphlet, stating the salient points regarding the spread of the disease, its dangers, and the advantages of prompt and persistent treatment. We must look to a higher order of education and *morale* among men as the best means of diminishing prostitution. The vast majority of fallen women became so, not from choice, but because of hard social lines that forced them into this life. Society should deal with them as unfortunates, rather than as criminals.

Dr. Frederick R. Sturgis said that alcoholism was more dangerous than venery. Public women had assured him repeatedly that, if they could leave the bottle alone, they would get along very well and might eventually become members of respectable society. He asked why, if it were proper to regulate smallpox, it would not be proper to regulate the other pox?

Mr. W. H. Baldwin, Jr., chairman of the committee of fifteen, said he had been impressed with the earnest desire of many citizens for greater enlightenment on this important topic. The subject of prostitution has received considerable attention and study by some of the members of his committee, and the general opinion seemed to be among them that regulation or licensing was impracticable, inexpedient and impossible, because of the tendency to increase clandestine prostitution. It has been admitted that this evil could not be banished; if, therefore, it must be with us, it was our duty to see that it should exist in proper places, and that it should not exist where decency desired to reign.

Mr. James B. Reynolds, head worker in the University Settlement, a dweller in "The Red Light District," said that, in certain respects, the scheme of regulation was applied more successfully in New York City than in Paris. The medical inspection of prostitutes was involuntary, but they were registered, as in Paris, and undoubtedly the taxing of these people was more systematically carried out and the taxes were heavier than in Paris, yet, no doubt, the money was put to a different use. He was perfectly confident that the number of public women not known to the police in this district was very limited; they were known by the police, and visited regularly. There were many at the present day who believed that it was not a good plan to attempt to remedy social evils by legislation; that it would be better to let these evils regulate themselves spontaneously. He agreed that the first and most important step forward must be with the medical profession, who must educate the people, and so shape public opinion that the efforts of laymen, in the same direction, would be accepted and appreciated.

On motion of Dr. S. A. Knopf, the president was empowered to appoint a committee of seven to ten persons to study this subject, with the object of securing municipal or State legislation for the restriction of prostitution.

REPORTS FROM VARIOUS CLINICS.

Retention Cyst of a Gland of Bartholin.

THE patient whom we are going to examine now is forty-six years old. She has been married twenty-five years. Her general health is good, except for some nervousness. She has one child, twenty-two years old. Her menstrual periods have been usually regular, though she notices now a slight irregularity. Four weeks ago she began to have much pain in her back and over the lower part of her abdomen. There is a small, hard swelling on one of the labia majora, and she complains of a burning pain. You will notice that the left labium is much larger than the right, and in the lower part there is quite a distention.

You may have swelling of the labia from various causes, from diabetic pruritus, from malignant disease with pressure on the vessels, elephantiasis, varicose veins, hernia, or from a specific condition, manifesting itself in mucous patches, which you find in the fourchette or the inner surface of the labia. I can see nothing that looks like a mucous patch here.

The shape of the swelling on the lower part of the labium is globular. There is something encysted there, and necessarily a gland. It has begun a retention cyst of the vulvo-vaginal or Bartholinian gland. With these glands you may have an inflammation of the duct, or an inflammation and abscess of the gland itself. A pus-like fluid escapes from the opening on pressure.

What is the indication for treatment of these cases. In the beginning, when the inflammation starts, it might be helped by fomentations and poultices. But when it involves the whole gland like this we should evacuate the abscess by an incision into the gland itself. The activity of the gland is destroyed, so we may employ cauterization internally, or we may dissect out the sac. Dissecting it out is not always an easy thing where there is suppuration, because it becomes adherent to the surrounding tissue. If any portion of the cyst sac is retained there may be subsequent return of the trouble. The position is not good for an open treatment of the gland. It would be best if it could be dissected out. If we find the sac wall so weakened that it breaks we can then treat it by the open method, cauterizing and then packing with gauze.

Instead of washing it out afterwards with bichloride

or other antiseptics, the more recent method is to use gauze to wipe it out thoroughly, the dry method. It is thought that healing takes place more rapidly this way.

Of course she could keep on using fomentation and flaxseed poultices if she were quite unwilling to have the operation, and it might break of itself; but I see no reason for that slower and more painful process. I think that she could with safety, now with the monthly period in view, have the incision made, and that quick relief would follow.

What causes this enlargement and inflammation of the glands? Sometimes it follows from traumatism, but much more frequently the inflammation is set up by irritating discharges, particularly those of a specific character.

Treatment for Diabetic Pruritus.—This patient is forty-five years old, and complains of pruritus, especially after micturition. This began a year ago last October. We see the vulva gives evidence of irritation. There is excoriation of the upper part, and evidence that there has been a good deal of rubbing and breaking of the skin, carried even to the nymphæ. Urinalysis shows the presence of sugar, and this would seem to be an explanation of the cause of her pruritus.

Of course we must treat the part locally and, besides, give internal medication for her diabetic condition. In many of these cases I find there is also a rheumatic tendency, and have the best results from combining the two indications for treatment, having them avoid food which would be injurious in either case.

So far as the local condition is concerned we will give her, first, washes to remove the discharge from the surface. Washes of borax and water, or soda and water. Menthol, two or five grains to the quart may be added. Then follow these by an application of ointment on a piece of patent lint, to keep the labia separate. We may use equal parts of zinc ointment and lanolin, with a very small quantity of carbolic acid added, about five grains to an ounce of the ointment. The use of some volatile substance, such as peppermint or menthol, is a help. I like ointments better than washes. But I think here the treatment I have suggested, washes followed by ointments, will be best. We must help a separation of the parts, and prevent any irritation from rubbing. In intractable cases I have sometimes used a little tar in the applications. Cocaine, ten grains to an ounce of ointment, will often help the patient to have comfortable, quiet nights.

The internal medication would be directed toward overcoming her tendency towards diabetes. She has had internal treatment, and is improving. Now, what would be good for her diabetic condition?

Salicylate of sodium may be given in five grain doses, once in three or four hours. This will help any rheumatic tendency. Give it well diluted, for it is irritating to the stomach. Benzo-sol is given in five to ten-grain doses, three times a day; or thymol can be used where there is a good deal of digestive disturbance.

Specific Affection of the Vulva.—This patient is twenty-one, and single. She has had hemorrhoids. For the last two weeks she has had pain on micturition, and comes to find the cause for this.

On separating the labia we find one of the nymphæ quite swollen, and there is quite a discharge from the vagina. We find a mucous patch on the fourchette. It looks like a punctured-out place in the mucous membrane, covered over with a whitish discharge. She has been coming to the hospital for treatment, and what medication she is on I do not know.

What would be the indications from her local condition? We must remove the discharge. I have found the best thing in acute gonorrheal cases to be repeated douches—bichloride, one to one thousand, or even as strong as one to five hundred. These are followed by a douche of the normal salt solution. Then dust calomel over the part or apply a little ointment. Then for internal medication mercurials are indicated. If the case is gonorrheal, often they need a tonic treatment.

The use of the lotion is for keeping it from irritation caused by the discharges. When the vulva is infected we should expect to find the inguinal lymphatic glands enlarged, and they are so in this case.

When the condylomata are gonorrheal they appear as little, pointed elevations over the surface, while the syphilitic ones are more flat. I think it would be well to put her on an anti-syphilitic treatment and see if the therapeutic test corresponds with our diagnosis. When there is systemic disturbance we may give the corrosive chloride combined with iron. We will give this patient the stock preparation here, of green iodide and tannic acid, three times a day, combining this with the washes.

Case of Aneurism of Descending Aorta.—This patient I bring you to-day is forty-five years old, married, a cook by occupation. She has had one child, and no miscarriages. She was born in Philadelphia. Her family history is practically negative. As to her medical history, she had small-pox at five years and has been well since then. Her change of life came at forty, which is very young. She caught cold while working as cook, and was admitted here the middle of August. She lost her voice five weeks previously. She had pain over the left side of her chest, which was aggravated by coughing. She noticed a difficulty in deglutition, more marked in taking water than in swallowing food—the water irritated her larynx. Her cough was harsh, attended by frothy expectorations and sometimes blood. Pain was more marked over the heart. Pain, aphonia, cough of a peculiar character, and some dysphagia, then, are the symptoms of which she complains.

With such a condition a physician would naturally examine the chest. The woman is moderately well nourished. The muscles are rather flabby; there is no swelling of the feet; no signs of a present or past eruption. We find no glandular enlargement. There is no evidence, then, from her present appearance or past history of specific infection. On examination of the chest, however, there are interesting phenomena. On inspection we notice fairly uniform movement of the chest. There is fulness of the left mammary and lower clavicular region. Over the area of fulness is a strong impulse, synchronous with the radial pulse, of cardiac rhythm. If you put your finger on the radical pulse at the same time with the hand over this area you will find what we call the diastolic shock.

Notice the cough, stridulous and high-pitched, also the pulsation of the vessels of the neck, and the enlarged superficial veins. On respiration percussion we easily note a dulness corresponding to the site of pulsation Respiration percussion was first described in 1871 and '72, when Dr. Da Costa called notice to its value in determining the size of growths, and it is a very valuable means of diagnosis. As a further method of investigation this mass could be outlined by use of the X-rays.

Plainly these are the physical signs of what we fully believe to be an aneurism. However, we cannot take anything for granted, and should resort to all means of investigation, particularly to exclude all growths that could be associated with pulsation and enlargement. In

a mediastinal growth even, if these phenomena could be present, the position would be different, and the physical condition would be one of more prostration. There probably would be pleural involvement. An abscess would be associated with fever and other signs of infection. I think we can safely come to the conclusion that this is aneurism. We shall have to take her word as to the difficulty of deglutition, for it would be foolhardy to attempt to pass a bougie to ascertain whether a stricture exists. This aneurism must be either right above the heart or in the descending portion of the aorta, and I take it it is the latter, because the heart is not pushed down and there is pressure on the bronchus. Because of the laryngeal involvement it is important to have preparations ready for tracheotomy at any time.

Aneurism may present phenomena to simulate tuberculosis. I have seen fever and sweats and, as here, bloody expectoration; there may be bronchial hemorrhage. It is unusual to get an aneurism so large as this in a woman.

Here is another case, a man who also shows signs of aneurism; it is also on the left side. The impulse is not so marked, there is a more marked thrill over the aortic valves. He presents one interesting phenomenon, that is a very slow pulse, which is probably due to myocarditis. The pulse now is forty-eight, not extreme, and yet it is brachycardia. There is a difference in the pulse on the two sides. He has an eruption, which looks like herpes, and will result as a pressure symptom.

In the treatment af aneurism rest is the most important factor. Probably some drugs might do good. Recently the most brilliant cures have been claimed from the introduction of wire into the sac. But I think we can all be very sceptical as to these results. It is very difficult to decide what advantage there is in any treatment, for the simple reason that Nature takes care of an aneurism. Over and over again we come to a section where there has been an aneurism that was never suspected in life. If we have a case where symptoms are progressing rapidly, and after introduction of a wire the symptoms cease, then we may claim something for our treatment. However, if I had an aneurism I think I should do as the great English physician and Dr. Murchison did, keep on working, hoping that the end would come with a sudden hemorrhage. The death of both of these men was a great loss to the medical world. In both cases it was not known why the aneurism should develop. Dr. Murchison had typhus in early life, and it was thought this might have been the result of secondary infection.

Bone Felons.—To abort a boil or bone felon before suppuration has set in, Dr. Lummins (*Med. Summ.*) strongly recommends covering the boil or finger, to the thickness of an eighth of an inch, with unguentum hydrargyri nitratis (citrine ointment). The ointment must be kept in place by a non-absorbent bandage, and put on fresh every eight hours, until all signs of inflammation have disappeared.

—Dr. Koch intends, in conjunction with the German Colonial Office, to organize various expeditions into German Africa for the purpose of carrying on investigations into the origin of malaria. He will direct the work from Berlin.

—The State Legislature of Alabama recently enacted a law prohibiting Christian Scientists and faith-cure doctors from doing business in that State.

RETROSPECTIVE THERAPEUTICS.

Organo-Therapy in Inoperable Carcinomas.—Dorland (*Therap. Gaz.*, May 15, 1899), from experiments with organo-therapy in inoperable carcinomas, concludes as follows: (1) The ovaries exert a curious, and, as yet incomprehensible, influence over the tissues of the body, and especially over the mammary glands. (2) This ovarian influence is in part neutralized by the action of the thyroid gland, or of thyroid substance introduced into the body. (3) The administration of thyroid extract alone to patients suffering from cancer of the mammary gland or of the cervix uteri, which has passed beyond the possibility of extirpation by the knife, exerts a slight inhibitory action upon the growth, and results in a decided relief of the two prominent symptoms —pain and discharge. This action, however, appears to be but temporary. (4) The removal of the ovaries in cases of inoperable carcinomas, provided these organs be actively functionating, will result, in many cases, in an arrest of the progress of the malignant disease, or even in a total destruction of the neoplasm, and an apparent cure of the condition. (5) This inhibitory action of oöphorectomy in inoperable carcinomas is more decided if, at the same time, as much of the cancerous growth be excised as possible, and the operations be supplemented by the administration of thyroid extract in full doses. (6) In older women, in whom there has already occurred atrophy of the ovarian stroma, excision of these organs does not result so promptly nor so favorably as in women who are passing through the period of sexual activity. (7) The relief afforded by the employment of Beatson's method appears in from twenty-four to forty-eight hours, and in favorable cases is rapidly progressive. (8) The dose of thyroid extract that may be safely employed varies from 10 to 15 grn. daily. (9) It would seem that, even though this method should not result in an absolute cure of the malignant disease, it may afford a longer lease of life, and more effectual relief from suffering, than any other palliative procedure as yet devised.

Serum Treatment of Diphtheria in Rome.—A study of the period extending from July 1, 1895, to May 31, 1900, shows (*Il Policlinico*) that the introduction of the serum treatment of diphtheria into Rome reduced the case mortality of that disease from 60 or 70 per cent. to about 16 per cent. At this latter figure the death-rate remained almost stationary during the first four years under consideration, when suddenly a sharp rise took place, not only in the death-rate, which increased to over 28 per cent., but also in the number of cases of diphtheria. The causes of this increase are to be sought in (1) previous illnesses predisposing to infection; (2) the localization of the infection; (3) the association with the bacillus of Loeffler of other bacteria; (4) complications, especially intercurrent affections, and (5) the method of treatment. The predisposing disease in the present instance was measles, as is clearly shown in the statistical tables given, which also exhibit the marked effect it had upon the rate of mortality. Owing probably to the same cause there was an unusual percentage of laryngeal cases with a mortality of 34 per cent. In the mixed infections (with streptococci, staphylococci, pneumococci, etc.) the mortality reached 40 per cent. of acute intercurrent affections, which, owing to measles, were twice as numerous as in previous years; the most deadly was broncho-pneumonia, with a mortality of 70 per cent. Antidiphtheritic serum was employed exclusively in the treatment of all the hospital cases, but nevertheless the percentage of deaths was high, owing

to delay in bringing patients to hospitals, and the consequent loss of time in commencing the injections. When administered on the first day of the attack the beneficial effect of the serum is unfailing, but after the third day it has little or no power to influence the course of the disease.

Mosquito-Screened Houses vs. Quinine.—A. H. Hanley, in the *Jour. of Trop. Med.* for January 5th, says that, although it has been proved that the use of the mosquito net on the Campagna prevents malaria, any one going to Southern Nigeria and expecting to steer clear of fever by its use at night will be disappointed. The anopheles here attack both by day and night. In the author's practice he has had to take long journeys in a boat at night, and for twenty-six miles has been exposed to the attacks of mosquitoes and other pests, but, thanks to ten grains of quinine, taken either when starting or on his arrival, has for years escaped fever. He cannot speak too strongly of quinine as a prophylactic, and he deprecates the tendency to put the quinine bottle aside and depend on the mosquito-net, which, used only at night, confers but partial protection.

The Specific Treatment of Acute Dysentery.—Dysentery is, according to W. J. Cruikshank (*N. Y. Med. Jour.*, March 16, 1901), a disease of great gravity, and one that is both contagious and infectious. It is caused by the introduction into the system through food and drink, also through the air, of a specific micro-organism, the identity of which seems to be still in doubt. Dysentery is one disease, in whatever latitude it may be found, and the only varieties which have any foundation, in fact, are those which may be based on the intensity of the morbid process. The majority of the therapeutic agents which have been suggested for the treatment of acute dysentery are useless, and, in many cases, harmful. Sulphate of magnesium, properly administered, in the acute form of this disease, acts as a specific.

X-Ray in the Treatment of Lupus.—H. Schall records, in the *Archives D'Electricité Médicale* (Nov. 15, 1900), the observation that in the application of the Roentgen ray in the treatment of lupus, it is necessary to employ slow interruptions, forty to sixty per second, rather than the high frequency apparatus, two or three thousand per second and more. He found when the high-frequency current was used that no effects whatever were obtained, but with the application averaging fifty per second, rapid cicatrization was secured.

Dr. M. Eberson says that, for a long time, physicians have felt the need of a compound which should combine in itself all the excellent properties of silver and ichthyol. ICHTHARGAN, chemically silver thio-hydrocarburo-sulphonate, is such a compound. It occurs as a light-gray, voluminous powder, of a slightly aromatic odor, and a mild burning taste; it is readily soluble in water, yielding an orange-yellow solution. The powder, as well as the solution, is stable if kept in dark vessels. Ichthargan contains 30 per cent. of silver (a much larger proportion than any of the other newly-introduced organic silver preparations), and 15 per cent. of sulphur, both organically united to the ichthyol sulphonic acid. Dr. Eberson's observations indicate that this agent will be useful in gonorrhea, trachoma, and other similar affections.

—Hippocrates' tomb was discovered in the course of recent excavations at Larissa, in Thessaly.

IN MEMORIAM.

Sarah Lefferts Schenck, wife of Dr. Egbert Guernsey, passed to the higher life in this city, May 20, 1901, in her eighty-second year, from cardiac asthma. Her married life extended over a period of fifty-four years. Three children died in infancy, Dr. Egbert Guernsey, Jr., a son, died ten years ago, and the only surviving child is Miss Florence Guernsey. Mrs. Guernsey originated from an old Dutch family, her father being Peter Tunis Schenck, her mother Jane Meserole, and her great uncle was John Lefferts, who sat in the Continental Congress.

Mrs. Guernsey's long life has been spent in forethought and devotion to the needs of others. A woman of tender sympathies, her heart was touched by the suffering and afflicted, and with a desire to use all means placed within reach by the researches of modern science for the alleviation of pain and disease, her time was spent in works of charity and philanthropy. She was, with her husband, the founder of the Western Dispensary, which culminated eventually in the noble Guernsey Maternity. She was one of the principal founders of the Hahnemann Hospital, of this city, giving of her strength and vigor unselfishly and without reluctance, unwearily giving time and thought for its interests and success. She was also one of the founders of the State Reformatory for Women, at Hudson, N. Y., of which she was a manager.

Her latest work was in behalf of the widows and orphans who were sufferers by the Spanish War, and for the relief of crippled children in this city.

Her sympathies were always on the alert for the downtrodden and suffering, and the last few years of war have been especially trying to her tender, sympathetic nature. Her mind was most active and interested in progressive work. Almost to the end she kept in touch with the events of the day and with the many good works she had been interested in throughout her life, and evinced pleasure as she heard of their progress and success. With her, "old age did not seem decay, but the ripening, the swelling of the fresh life within, that withers and bursts the husks."

"God's finger touched her and she slept."

A. K. H.

Dr. Clarence Cornell, of the surgical staff of the Metropolitan Hospital, died at his late residence, 200 West Seventieth street, May 1st, of cirrhosis of the liver, at the age of forty-five years. Dr. Cornell had a large surgical practice, with a high standing in his profession for his accuracy in diagnosis and his originality and skill in his operative surgery.

Dr. William H. Draper, widely known as an author, teacher, and specialist, died in this city April 26th, at the age of seventy-four years.

The State Medical Society will hold its semi-annual meeting at the New York Academy of Medicine, Oct. 15 and 16, 1901, with a reception at Delmonico's in the evening of the 15th. The sessions will be devoted entirely to the discussion of scientific subjects.

The society, in making this new departure, hopes to increase the interest and attractiveness of its sessions, with a view to augmenting the attendance. This occasion will be made especially attractive in every way, and the officers are making efforts for a full meeting. The membership has been increased, and county societies may now send five times the number of delegates they formerly were allowed to do.

MISCELLANY.

—Professor Behring has lately been the recipient of a Prussian title of nobility.

—One of the latest fads in England is having trained nurses for pet dogs.

—The first woman to take the degree of medicine in Peru is Senorita Laura Rodriguez, who received her diploma in 1900.

—It has been estimated that a careless or ignorant expectorating consumptive can eliminate and distribute seven billions of bacilli in twenty-four hours.

—An epileptic in Jersey City was seized with a convulsion and fell face downward in a puddle of water only two inches deep, and when found was dead from suffocation.

—In England, lately, a youth named Becker, a baker, scratched his finger with the sharp edge of a crust, and died from blood-poisoning. "Accidental death" was the verdict rendered by the coroner's jury.

—The Medical Department of the University of Buffalo is in receipt of a gift of $50,000 for the purpose of erecting a laboratory to be devoted entirely to research work. It will be known as the Gratwick Research Laboratory.

—According to the report of a committee of the Hundred Year Club, the two oldest persons now living are Izai Rodefsty, of Moscow, Russia, who is in his 136th year, and Mrs. Nancy Hollifield, of Battle Creek, Mich., who is 117.

—Chicago now claims to be the healthiest large city in the world. Its death-rate has steadily fallen, from 18.11 in 1894, to 14.56 in 1900. With the present population this is equivalent to the saving of 6,000 lives annually.

—Norway has a law dealing with cremation. According to the act, every person over fifteen years of age can be cremated after death, if he or she has made a declaration in the presence of two witnesses. For those under fifteen a declaration on the part of the parent is necessary.

—Dr. Von Puyadon is of the opinion that red light favorably influences measles. It causes diminution of fever, a more rapid appearance of the rash, and a milder degree of desquamation. The red light must be used at the beginning of the disease. Small red curtains are recommended.

—Naphthalan is the substance which Voges calls an antitoxin for mosquito bites. He states that its action on the poison from the bite is as effective and specific as that of an antitoxin on the bacterial toxin. Voges is at the head of the National Department of Hygiene of the Argentine Republic.

—According to Dr. I. N. Love (*Jour. A. M. A.*), the excessive smoker is not only more liable to pneumonia, la grippe, tuberculosis—laryngeal and pulmonary—as the sensitive mucous surface and the bankrupted nervous system present a double invitation at all times, but fatal results are more apt to occur. Every case of laryngeal tuberculosis coming under his observation for several years has presented a history of the victim being a smoker, in the majority of instances, to excess.

—The latest serum to be proposed is one to confer immunity against spermatozoa. Metschnikoff, of the Pasteur Institute, Paris, has been making a series of experiments that show that sheep spermatozoa, injected into the peritoneal cavity of the guinea-pig, lose their mobility much more rapidly if the animal has previously received an immunizing spermatozoic dose. The inference is that complete immunity through appropriate dosage is one of the possibilities.

—The use of diphtheria serum in Italy, and other countries as well, is likely to receive a severe check, says the (London) *Chemist and Druggist*. The Seropathic Institute of Milan made a batch of serum on November 24th, into which the tetanus bacillus was accidentally introduced. The result has been that eight persons on whom the serum was used have met with horrible deaths from tetanus. The institute was immediately closed, the serum was destroyed, and an effort made to recall all supplies in the hands of dealers. The accident naturally caused a great scare in Italy.

—In a case reported by Lapthorn Smith (*Am. Jour. of Obst.*), there were displaced and inflamed ovaries, causing the patient misery, with complete absence of sexual feeling. The ovaries were removed, as the patient had been under medical treatment for years without benefit. The result was restoration to health and complete restoration of sexual feeling. The cure seems to be permanent, and he agrees with Lawson Tait, that in cases of useless and diseased ovaries, the removal of the diseased structure restores the normal condition, and does not unsex the woman.

—The Stockholm *Dagblad* (*Med. Age.*) states that it has taken four years to realize and bring into shape the vast estate of the inventor of dynamite to comply with the conditions of the will, in regard to the endowment of the famous Nobel prizes, each of which is a fortune in itself. It is anticipated now that the five prizes can be awarded in 1901. Physicians are interested, as one of the five is for "progress in medicine." No notice will be taken of personal applications. The committee in charge of the physics and chemistry prizes has already requested suggestions from the professors of these sciences at the principal universities of the world, including Rome, Leyden, St. Petersburg, and Chicago.

—The rich family of Mitsui, of Tokio, has offered an extensive site in that city for the erection of a university for women, and three other citizens have, between them, contributed a sum of $120,000 for the cost of the necessary buildings. The work is already in progress, and it is hoped the new university will be opened the coming spring. It is not likely there will be any want of students, as, in recent years, very many young ladies of good family have applied to be admitted to the university courses, especially to the Faculty of Medicine and the Polytechnic School. The latter institution is intended for the training of civil engineers, a circumstance which seems to show that Japan is about to set an example to Europe in opening up a new sphere of labor for the women of the future.

ORIGINAL ARTICLES.

THE ABDOMINO-SACRAL AND OTHER NEW METHODS FOR THE EXTIRPATION OF RECTAL CANCER.*

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PART I.

ALTHOUGH we originally only intended this article to be an addition to the literature on operative-methods for treating cancer of the rectum, by describing two cases, in which a method was applied which has been but rarely used, to say the least, we could not avoid, when studying the particular conditions which caused this method—called the "abdomino-sacral"—to be devised, determining its exact relations to the earlier methods. These relations are so intimate, that it appears to us to be indicated that we first make a comprehensive survey of the new methods for operating cancer of the rectum. To this we will add a somewhat more elaborate presentation of the conditions under which the "abdomino-sacral method" offers advantages over other methods, without suppressing certain disadvantages which may be attached to it. This we do care to say in advance, however, that we do not wish to raise any discussion as to priority, but rather to attempt an objective comparison of the newer methods.

The first idea of an operation for the removal of a cancer of the rectum is, as far as we have been able to ascertain, according to Morgagni; the first operation, however, was carried out by Faget, whose name, of course, has been obscured somewhat by his great successors.

Great services for the development of the operative treatment of cancer of the rectum have been rendered by Volkmann. Since his time numerous methods have become known, whose common purpose has been to gain access from below, from the anus, in which, however, almost no regard was paid to the preservation of the sphincter. As an essential advance in a similar direction we must regard the method of Kocher, of 1874, which by a posterior longitudinal cut of the soft tissues, which reached to the coccyx, and eventual ex-articulation of the coccyx, made the tumor more readily accessible.

But as this method produced merely an approach from "below—*i.e.*, from the anus—we prefer, in opposition to Arndt, to reckon it among the older methods, although we grant that it forms the transition to the newer methods.

As chief support of our opinion we consider this, that up to 1886 it was absolutely impossible to remove all carcinomata of the rectum, even more than that, for those cancerous growths which, according to an expression of Volkmann, were located too high for a posterior cut, too low for an abdominal cut, not even this method was sufficient.

The removal of these cancers was first made possible by Kraske's procedure from the side—*i.e.*, by entering the left spatium sacro-ischiadicum. We can not understand how Arndt can claim that between this and Kocher's procedure there is no essential difference, the less so as he himself admits, that through "Kraske's method" the heretofore inoperable highly situated carcinomata had become operable.

For these reasons we should like to consider the "sacral method" the first of the newer methods. But, although this method considerably reduced the number of the previously inoperable carcinomata, and, at the same time, in a most satisfactory way made possible the preservation of the sphincter, it did not satisfy all expectations—perhaps because one expected too much of it. Even by its application one met with peritonitis, wound infection, hemorrhage, and recurrence of the malignant growth, as in the case of the earlier methods. Where the sacro-ischiadic space was narrow one did not find enough room.

This clearly led to the various sacral resections, anticipated by Kraske, and to the further methods, among which we especially wish to cconsider the "vaginal." As end-link in this chain comes the "abdomino-sacral method." The idea to proceed thus was already conceived by Volkmann, who, in one of his communications about the treatment of the highly situated tumors writes: "Perhaps we shall learn later to subject a part of the first-named cases to operation with success, by combining the laparotomy with the extirpation of the rectum per anum, loosening the rectum to the lowest parts of the S. Romanum, and, after sewing in the rectum, cleaning most carefully the opened abdominal cavity." Lately, without any preconceived plan, this operation has actually been carried out under the pressure of circumstances arising during the operation. Kraske describes a case in which he had to do laparotomy, even after carrying out the sacral cut, because, while loosening the tumor, which was firmly adherent to the promontory, the upper end of the gut was torn loose and slipped into the abdominal cavity.

The same thing occurred to others; for one, to Sonnenburg. Especially, however, do we wish to mention a procedure by Badenheuer, which superficially bears much resemblance to this method, but, as we believe after examining the literature, had its origin in an entirely different point of view. We are thinking of one of his well-known big "explorative cuts," which he adds to the sacral cut, in order that, while loosening the adhesions in the sacro-iliac region, he may subject the sigmoid flexure and the lower part of the colon descendens to palpation, and then, at this place, to eventually freely loosen the meso-colon or mesenterium of the flexura sigmoidea. We perceive, therefore, that the idea of a combined procedure is not entirely new, and, as explained, has been variously carried out, and yet we believe, for various reasons, that it merits greater attention and more exhaustive discussion.

Before we enter upon the justification of this method, its indications and its services in comparison with other methods, allow us to show that the method can be actually carried out by relating three cases operated by Professor Kraske during the year 1899.

Case 1.—Mrs. R., forty-nine years, farmer's wife, has for about a year had pain and a sensation of pressure in her abdomen, but for a longer period already preceding this urging to passage and thin stools, without any feeling of relief; the complaint has grown worse since January. Ten days ago the patient lost great masses of blood from her rectum, in the shape of black lumps. The patient has had seven children, and the last birth was complicated by a placenta prævia. The patient's family is healthy; the patient herself was well as a child; when seventeen years old she had pituitous fever; later she had articular rheumatism twice. Seven years ago the patient had severe "stomach pains," continuing over a period of five years.

April 25. Status: Patient is well built, very much

*Inaugural-Dissertation zur Erlangung der Medicinischen Doctorwürde vorgelegt der Hohen Medicinischen Fakultät der Albert-Ludwigs-Universität zu Freiburg im Breisgau, translated from the German by the author.

emaciated and of pale complexion. The abdomen is very much distended, individual intestinal coils can be discerned through the abdominal walls. A tumor in the abdomen cannot be felt through the abdominal coverings. On the whole the abdomen is soft. There is present a slight diastasis of the recti abdominis. The colon descendens is distended tensely with kneadable masses. Per anum one can feel, at the height of Hyrtl's sphincter, a tumor, which is firmly adherent toward the rear, whilst toward the front it can be raised free of the uterus.

The intestine at this portion is strongly infiltrated. The tumor has an irregular shape, and consists of separate papillæ. The upper edge cannot be reached.

Liver: Not enlarged, surface smooth.

Lungs: Normal respiratory sounds, no dullness.

Heart: Pure tones, normal boundaries.

Pulse: Regular, but rapid.

Further Observations.—By laxatives it is possible to remove large masses of stool with resulting improvement in appetite and general condition. From time to time severe cramplike pains in the anus arise, and make opiates necessary. At the same time, the abdomen is markedly distended and the colon, which in its transverse course forms a loop downward, is filled. Amelioration of these conditions through laxatives.

June 5. Rectal examination: A tumor situated above the sphincter tertius, with firm adhesions toward the rear in the sacral cavity and toward the right, and grown very firmly adherent to the corpus uteri.

June 9. Operation in chloroform narcosis: An abdominal oblique cut is combined with the sacral cut.

I. Act.—Severance of the abdominal coverings *two fingers' width above the left Poupart band, from the left anterior superior spinous process to the middle line.* The intestinal coils, uterus and adnexa are *held back* by strips of gauze and *tampons,* and above the superior hemorrhoidal artery and vein the *peritoneum* is *incised.* The *superior hemorrhoidal artery* and *vein* are *double ligated* and *severed.* Thereupon the rectum and sacral cavity are separated by *digital,* etc., manipulations, taking care to *avoid* the use of *sharp* instruments; the adhesions with the corpus uteri are also broken up. While doing this the diseased and weakened gut is torn in the vicinity of the carcinoma. Tampons are applied and (Act. II.) the sacral cut is made and the lower portion of the rectum is exposed. Now it is possible from above (*i.e.,* abdominal entrance) to more easily loosen the remaining adhesions. The intestine can now be easily drawn down through the sacral opening. The section of intestine is severed sufficiently far above and below the tumor, and thereupon the anterior wall of the proximal section of gut is united with silk sutures to the distal end for half the circumference of the lumen. The abdominal wound is carefully tamponed, and the sacral likewise. The proximal end of the intestine lies free in the wound, so that the intestinal contents can freely pass out.

Post Operative.—With absolutely normal temperature and soft abdomen during the first few days, severe colic occurs, repeating itself every couple of hours. Repeated doses of opium and morphine become necessary to mitigate the pains.

June 21. The wounds look well. Abundant secretion in the posterior wound. A piece of the proximal end of gut sloughs off, also the fatty tissue becomes slightly necrotic. It is easy to remove the tampons from above and below without inflicting pain. The great wound cavity is covered with healthy granulations. One can irrigate conveniently from the abdominal wound through the sacral. However, in consequence of the abdominal pressure the internal wound surface lays itself against the external, the pelvic wall, and grows to it. The upper (abdominal) wound is completely united at the end of four weeks (beginning of July), with the exception of a few granulations.

From the posterior wound feces have been discharging since (June 18th) regularly out of the proximal gut stump; gradually, however, the intestine, since a portion of the anterior suturing has held, is being pulled toward the distal stump by the cicatricial contraction, so that at the time of the patient's discharge (August 9th) more than half of the circumference of the two ends of the gut is united, and part of the stool is passed in the normal manner. The patient has gained decidedly in weight and leaves the house strengthened and in good spirits.

The recurrence, however, as was to be expected from the *extensive character* of *the disease,* did not delay long.

The patient presents herself on September 28th and is readmitted because of severe pains in small of back and difficulty in emptying her bowels.

September 28. Status: In the vicinity of the place of union of the anal and rectal portions of gut, which readily admits the index finger through the natural lumen, we find hard masses reaching from both sides to the pelvic wall and similarly in the sacral concavity, so that through these masses the intestine is strongly stenosed from the right and from the front, although itself remaining free from cancerous growth.

September 30. In narcosis: Anus praeter-naturalis at the descending colon. After opening the abdominal cavity, by a cut carried parallel to the abdominal scar, it is seen that an intestinal loop is drawn to the colon and at this part firmly grown to the peritoneum parietale, so that it comes to lie before the colon. If we had incised in the scar we would surely have come instead of into the colon into this loop of small intestine. We then advance the colon descendens. The free abdominal cavity is shut off by strips of gauze, and the colon is sewed into the abdominal walls with silk sutures, occlusion-bandage.

On the third day after the operation the intestine is incised and the hard fecal masses are removed (October 10th) with the finger and horn-spoon, as they would not pass off spontaneously through the artificial anus.

Lively pains in both ischiadic regions.

November 15. Beginning decubitus.

November 24. Shortness of breath, dulness over both interior pulmonary lobes, to the left bronchial respiration and crepitant râles, to the right course moist râles.

November 26. Thrombosis of the vena cruralis sinistra.

December 5. Exitus letalis.

Autopsy Findings.—Pneumonia of both inferior lobes. *Small pelvis* lined with masses of cancer, which firmly embrace the gut. The carcinoma has grown *into* the sarcum. *Metastasis in the liver.*

Case 2.—M. H., fifty-two years, farmer; admitted July 3, 1899.

Anamnese.—Parents died of unknown causes. Mother grew very old; five sisters and brothers alive and well; four died, one of hydrops pericardii, the others of not definitely determinable causes. Two of his children are alive and well. His wife had numerous premature births; one child died when one day old. Patient as a child very often indisposed. When twelve years old had "bilious fever," being confined to bed six weeks; twenty-

two years ago, operated for abscess in neck; sixteen years ago, pleurisy; four years ago, influenza. Since January of this year, intestinal troubles, pain in abdomen, feeling of fullness in abdomen, constipation, temporarily, once incontinence, later frequent urging to stool, and oft slight hemorrhages since February; since the 29th ult., no real passage.

Status: Very emaciated, pale man; lungs, heart and urine normal. In region of flexura coli are felt rows of hard knotty masses (scybala). Per anum the introduced finger reaches barely to an ulceration on the anterior rectal wall, its lower accessible edge being on a hard eminence, its upper edge and lateral edges out of reach. Posterior rectal wall, as far as palpable, is intact. Hard glands in the sacral concavity. Laxatives from July 7th on abundant passages, partly hard old masses, partly thin slime with little admixture of blood. The hard knots of the sigmoid region disappear. A somewhat softer cylindrical body in the depths is still determinable.

July 15. Operation in chloroform narcosis. Extirpation of tumor according to the "abdomino-sacral method." Cut about 15 centimeters long and parallel to left ligamentum Pouparti; opening of peritoneal cavity; the tumor running far up the rectum in the rear, is grown fast to the rear and left with the pelvic wall. After ligation of superior hemorrhoidal blunt loosening of the tumor. In so doing the tumor is torn at one spot. Gauze tampons.

II. Act.—In right lateral position the sacral cut; resection of bones *not* necessary; rectum exposed, the tumor is easily drawn out through the wound, a piece of gut 20 centimeters long is resected, the two ends of the gut are united by a circular suture; iodoform-gauze tamponage of the upper and lower wound, rubber bandage to prevent extrusion of intestinal coils. In the evening and on the *following day* opium.

July 16. Frequent pulse. Vomiting; now and then severe attacks of cramplike pain; slight meteorism.

July 17. Pulse, 120; temperature, 37.1°. The distension of the abdomen has increased. Otherwise status idem.

July 18. Markedly distended abdomen. Liver dulness almost obliterated. Sensitiveness on pressure in the median line. Much retching and vomiting. Pulse frequent; at night rapid exaggeration of symptoms. Pulse becomes more rapid and smaller in spite of excitantia. Pulse, 130; temperature, 37.2°.

July 19. Exitus letalis, 5 A. M.

July 19. Autopsy by Von Kahlden: Wound good; intestinal suturing firm. *No sign of gangrene* of *ends* of *resected* gut. Colon descendens is pressed into the shape of a flat band; the remaining gut is pale and meteoristically distended, but *there* is *no peritonitis. High grade* of *pulmonary edema.* Flabby, thin walled heart muscle, with "tendon spots" (Sehnen-flecken).

Case 3.—Previous history: Patient has for some time suffered from a weak stomach. For several months he has been suffering from constipation, so that he himself believes he has a rectal trouble. He has never observed blood in his stools. Professor Kraske, whom he consulted, found, on rectal examination, a hard tumor, barely reachable, located in the region of the promontory. He advised an operation, and the patient is admitted November 18th, and goes through the regular preparatory cure.

The patient passes great masses of feces, and the heretofore distended abdomen is getting softer. Tumors in the abdomen can not be found, but, on the other hand, the edge of the *liver,* which extends beyond the rib border, *feels hard,* and in the *epigastrium* there is *slight* pain on pressure. Another examination before the operation is omitted by Professor Kraske out of regard for antisepsis, especially since the high location of the tumor and its apparent adhesion to the promontory indicate "a priori" an "abdomino-sacral method."

November 28. Operation in chloroform narcosis. A cut 11 centimeters long was made parallel to Poupart's ligament, with severance of the rectus. It becomes evident that the tumor, in greater extension, about 7 to 8 centimeters, takes in the wall of the intestine, and this upon the side of the entering vessels, and that it is firmly adherent to the promontory.

The *hemorrhoidalis superior is ligated,* the *peritoneum severed sharply* on *both sides,* the rectum loosened anteriorly from its connections with Douglas's *cul-de-sac,* and the mesentery, which is firmly drawn toward the promontory, severed with scissors. Thereupon the rectum, together with the *glands,* is easily gotten out of the sacral cavity by blunt manipulations.

Now the patient is brought in the right lateral position, and *from the parasacral cut one comes directly upon the gut and the tampons which had been introduced through the anterior wound.* The rectum and the lower part of the S. Romanum are pulled *forth from within* the pelvis, resected and united. Altogether *12 centimeters* of *gut* are *removed. The union is very easy* of *execution.* A gauze strip drain is carried through the abdominal wound to the region of the promontory, the abdominal wound is *closed* by a couple of deep sutures, the sacral wound is tamponed. The duration of the operation was sixty minutes.

Post-Operative.—Directly after the operation the patient has a regular pulse, about 120. He suffers but little from the secondary effects of the narcosis. On the next day, however, the pulse becomes weaker and irregular, very likely because the taking of nourishment, especially in liquid form, is exceptionally small.

December 1. Under increasing weakness of the heart exitus letalis steps in.

Autopsy.—At the autopsy is found a primary cancer of the stomach at the lesser curvature, just as Professor Kraske, on inspecting the gut closely immediately after removal, has suspected, because the tumor in the wall of the intestine had taken its *origin* clearly at the *point* of *entrance* of the *blood-vessels,* and infiltrated the wall without ulcerating, but, however, causing a narrowing of the lumen through shrinking of the tissues and adhesive growth of the tissues to the mucous membrane. Besides this there are found, at the autopsy, numerous similar metastatic tumors along the intestine, at the entrance points of the blood-vessels.

From the histories above recited we see that the operation is actually feasible, but probably not without some risk. Especially upon this last point, therefore, we should like to enter more in detail. *In the first case the removal of a tumor* was achieved, which *was inoperable* by *previous methods,* and the patient's life was extended a quarter of a year, during which period the patient was nearly free of symptoms or suffering.* In the two other cases, however, death occurred twenty-four to forty-eight hours after the operation. As cause of death in the second case we must regard the injury to the already diseased heart muscle by narcosis and operative shock. It is difficult to decide whether the operation completed in *sixty minutes, without* difficulties or appreciable loss of blood, thanks to the *oblique laparotomy* permitting such *good inspection* of the parts, is more

*She performed the heavy farm work of a German peasant, carrying considerable weights, etc.

severe than an operation from the rear through the para-sacral route, which, if at all possible, would certainly have been accompanied by severe hemorrhage and very likely would have required the application of blunt force and consequent maceration of tissues. We regard it as more highly probable that the debilitated and emaciated patient, with his bad heart muscle, would have succumbed to any other surgical interference. It was, of course, impossible to anticipate this, for the degree of degeneration of the heart muscle was first determined by the pathologist. In the third case, however, as appears from the history, we had to deal with one of those *rare* cases, observed once elsewhere, and here, by a strange coincidence, twice in rapid succession, where a primary cancer of the stomach, which, showing almost no symptoms *per se*, led to metastasis in the region of the mesentery vessels, and consequent stenosis of the intestine. Professor Kraske called attention to the peculiarities of this condition at the last but one Surgical Congress.

In the consideration of this case it suffices to remark that the chances of the patient's recovery from shock were naturally very few, because the assimilation of food, always more or less reduced after operation, was still more so in the presence of a carcinoma of the stomach. The endurance of a cancer patient with general carcinosis is undoubtedly much lower than with the carcinoma still localized.

Upon these premises one is hardly justified in laying the blame for the untoward result in the two latter cases upon the method of operation. At the same time, we readily concede that this operation from two sides made a strong impression on us, and that we consider it as a very severe operative interference. Yet we were able to observe in Case I that the patient made a surprisingly good impression a few hours after the operation, although she was much reduced by her ailment, and especially by severe hemorrhages during the weeks immediately preceding the operation. However, the question will no doubt be raised from various sides: Shall we, in cases where the removal of the cancer is only possible by such a severe procedure, subject the patient to the danger, and the subsequent possible annoyances of the after treatment, or shall we not rather be content with a colostomy?

The standpoint of the patient will always be to demand from his physician a cure of his malady. As a matter of principle, therefore, he will, if cognizant of his condition, undoubtedly prefer a more radical treatment. However, the physician is not in every case called upon to elucidate to him his condition. Accordingly, therefore, the decision as to whether a radical removal is to be made or not will practically remain with the physician. In general, the tendency of the surgeon will be in the direction of making as radical an extirpation as possible. It is characteristic of the French to suppose that the patient is to submit to the unpleasantness of an artificial anus, in order to admit of as radical treatment as possible—*i.e.*, to clean out the pelvis as much as possible.

Or do French authorities do it for the purpose of sparing the patient, in view of a recurrence and repeated stenosis of the intestine, a second operation—the application of the artificial anus? On part of the Germans the desire for radical operations, coincident with a greater regard for the wishes of the patients—*i.e.*, the *preservation* of the *function* of *the sphincter*—the search for *new operative methods* is manifesting itself. Says Bardenheuer:

"The bold surgeons are solely inspired by the desire to *thoroughly* help their suffering fellow mortals, and will therefore untiringly strive to reduce the dangers of the operation." In a similar sense writes Kraske, in so much as he says: "That it is no doubt self-understood, that in the treatment of rectal cancer the same rules hold good as for carcinomata of other organs and regions—*i.e.*, that it must be the ultimate purpose to thoroughly remove the evil by operation, and that it would hardly be necessary to specially emphasize this, if there were not surgeons, even of the present day, who support the view that every radical operation must be abandoned, and the treatment be satisfied by the application of an artificial anus."

Whilst, for various reasons which we will refer to later, we must condemn the standpoint of certain surgeons who wish to give up every radical operation and apply an anus præter-naturalis, we believe that the French shoot far beyond the mark when they demand the sacrifice of the natural anus as essential to a radical removal of the concer. The *artificial anus is to* be *regarded merely as a makeshift,* which is *at times* very valuable as a *preliminary operation,* but is, whereever *possible, to be avoided* as *palliative operation.* For through it we place the patient in a truly lamentable condition. After a transient relief, the patient finds out that his essential trouble has not been removed, and falls into a psychic depression, such as Kraske has elsewhere so graphically described.

These conditions are not entirely spared the patient who has been radically treated, so long as the control of the anus is not improved and subject to the will of the patient.

Unfortunately, in spite of our advanced civilization, we still meet with cases in an advanced stage of the disease, and are confronted with the question: "Capital radical operation, or artificial anus?" But, whilst *this* question, dependent on the standpoint of the surgeon, will be relatively easily decided, it appears to us more difficult, in a given case, to decide whether the cancer is removable by one of the hitherto applied cuts from "below" or "behind," with or without a resection of the sacrum, or perhaps by a combined procedure—*i.e.*, from both the hypogastrium and para-sacral space. In the first place, it appears to us, generally speaking, that every method depends on the individuality of the operator and his skill again to be dependent on the greater or less practice he has had in the application of a particular method. Since reliable statistical material as to the services of one or the other method is not obtainable, there remains nothing for us to do except to make comparison and criticism of the same from a general standpoint, with sufficient regard to the experiences given in the literature.

RESPONSIBILITIES IN THE TREATMENT OF FRACTURES.

BY ORLANDO S. RITCH, M.D., BROOKLYN, N. Y.

THE great dissemination of surgical literature throughout the entire professional ranks, culled to its briefest résumé, keeps our profession in touch with the topics of the times, and throughout the profession it is not uncommon to read or hear that Dr. So-and-So has been criticized, censured, or even denounced by patient or relatives for results which do not meet their approval, or, we hear of a doctor who is threatened with a suit for damages, and now and again legal correspondence pass between the doctor and attorney, and often a suit is pressed in court; fortunately, for the doctors, they usually win the case, and in the majority of instances rightly obtained.

It is the purport of this paper to engender such a spirit of fraternity that we do not stand for indiscriminate rebuff and if forced to an issue, having such qualifications as I may enumerate, we stand as a solid phalanx against all unjust criticism. I have no desire to propagate any form of coöperative associations, save the one high and lofty cause, the support of our qualified and honest confrères.

The question has often been raised, should the general practitioner treat fractures? My answer is, that the physician should decide the question conscientiously with himself, not as to what the patient may think of him for calling in a surgeon, not what is the monetary consideration to gain or lose, but does he consider the exigencies of the case, such that he can offer the patient the best possible treatment, and if the case turns out unfavorably where does he stand? If a surgical case carries an accountable responsibility, there must be qualifications required to set-off such responsibility. The question naturally presents itself what constitutes a deficient qualification which makes responsibility tenable, or what requirements are necessary to dissolve the liability. It is unnecessary to state, except in passing, that all physicians, and I have reference to the literal sense, one who is a graduate of a recognized medical college, duly registered in the county in which he resides, and enjoys the respect, if not the confidence of his fellow practitioners, endeavors to treat a fracture with the very best skill, coupled with theoretical knowledge, practical experience, and with but one purpose in view, "a good result."

I will illustrate by a few examples or instances, simply to drive home the old truths we all know so well, but so often forget.

I was called to treat a fracture of the condyles; during the excitement, and before my arrival, another physician was called, and placed the arm in a straight splint. The popular treatment at that time was a rectangular splint and passive motion, and so I felt constrained to remove the dressing and apply the splint in vogue at the time. Unconsciously upon my part, and to my astonishment, the other doctor was censured for his work. In the light of present experience the doctor's treatment was correct, but in advance of the accepted theory. The first consideration in the treatment of fractures of the condyles is accurate and dextrous apposition of the fragments, and, I believe, during the period of shock a straight splint will keep the humero-ulna angle in better apposition, and subsequently the elbow carefully converted to right angles. Now, if this doctor was an accredited physician, and possessing ordinary skill, not even extraordinary skill, but with reasonable ability, and his best judgment was that a straight splint was most applicable to the case, he should not have been censured for his treatment.

This illustrates the fact that when a change of treatment is adopted, promulgated by our experience, we must not lose sight of the experience which formulated the other doctor's treatment; it is an instance where we can primarily support each other.

Another question comes up as to a correct diagnosis being made immediately following the traumatism. In most instances this can be accomplished, but occasionally it is quite impossible.

Not long ago I was called in consultation to examine a woman's ankle; the swelling and pain had been so excessive that the family physician was in doubt as to the nature of injury. A few days from the time of the accident I saw the case, and could diagnose a Pott's fracture of what is denominated the first variety, that is, where eversion is more pronounced than abduction, which demonstrates that the force of injury is through the internal lateral ligament, and breaks the internal malleous at its base, and that presses the external lateral ligament outward, rupturing the tibio-fibular ligament, and this continues the line of fracture through the fibula close above the malleous, and the deformity when present is characteristic of the fracture. I am quite certain that the surgeons who have had much experience with these dreaded fractures will bear me out when I say that apposition in a fracture box, lotions and rest, is good treatment until all doubt is removed before a permanent splint is applied. This treatment has no reference to a compound condition. It is not always difficult to reduce the deformity and bring the parts into apposition, but it is often quite a difficult matter to keep fixation, especially if a permanent dressing is applied of a plaster cast before the swelling has subsided. I hardly ever use a plaster cast for this condition. I use a plaster bandage four inches wide, extending from the tip of the toes, along the sole of the foot, hugging the tendo achilles to a point above the belly of the soleus, for a dozen or fifteen turns; another bandage is run over the dorsum of the foot, from right to left, and up the outside of the leg to a similar height, then a gauze bandage around the instep, another above the right of the fracture, and one at the top of the splint; this gives us all the fixation, and an opportunity to watch the parts, and the cast can be easily tightened when necessary. But what I wanted to bring out principally was, that just as soon as some of the family learned the nature of the accident they began to find fault with the doctor, and told him how he should have treated the case at the beginning. There should have been a permanent dressing applied at once, but after explaining to the family what we were dealing with I was able to satisfy the up-to-date home surgeon that the doctor's treatment was correct up to the time I saw the case, for the parts are largely swollen, the extreme nervousness of the patient will not permit of a thorough examination without an anesthetic is administered; we may reason this is not advisable just at the time; the patient is suffering from shock, which may be profound, may be highly hysterical, we may recall to our mind that no harm can follow a little delay, the patient must recover from the shock, the fractured ends must have a period of rest, and I believe these deductions are correct. The objective or positive symptoms may be present, or only in part; the subjective ones may be obscure. We are often compelled to weigh carefully the history of the case, as but few can relate the details of an accident correctly or the totality of the symptoms may be so obscure that the most careful observer may be in doubt at the first visit; you may feel justified in applying a temporary splint or bandage, recommend a lotion, prescribe your remedy, and expect to call again. I will say that deformity, preter-natural mobility and crepitus are absolutely pathognomonic. We may get along without the crepitus, but still the other symptoms remain hidden, but when the swelling has somewhat subsided you continue your examination, confirm your diagnosis, and go on with the treatment, but in the meantime a friend of the family calls, and exploits upon his knowledge of surgery. You may be notified not to call. Another doctor is called in, and detects the trouble, and you are censured for negligence. I have nothing to say about the prerogative of a patient changing his physician, but I do say that the doctor, now that he has the case, should give due credit to his predecessor, and let him down and out with all due professional and fraternal respect. I

do not counsel the support of ignorance, or actual lack of knowledge, or lack of skill. I know the weakness of human nature, and it is compassion we should demonstrate, no shrug of the shoulder, a wise look, nothing said, but the death sentence has been pronounced upon the other fellow. The new doctor should take up the case as he finds it, and administer due deference to his predecessor.

Another illustration: A fracture is reduced to proper apposition, proper splints are applied; the patient may conduct himself according to the directions of the physician. At the proper time the splints are removed, but there is no union of the fractured ends. The physician is again censured for failure somewhere in his treatment, exemplified by the objective results.

Not long since I was called in consultation to just such a condition, and the family physician was abused shamefully in my presence, wholly uncalled for. The first thing I did in this case was to notify the people that if they did not cease their talking I would leave the house. Then we commenced to examine into the early and very early history of the patient, and, all other conditions being equal, I was able to satisfy the people that the fault was with the patient and not the doctor.

Another case, properly treated, may result in a false joint of a greater or less degree of mobility. Here again is the opportunity afforded the latest doctor in the case to use his weapon pro or con; but if the case has been treated upon recognized surgical procedures, and even though the patient may have a false joint, who can contradict the theory that there is not that inherent quality in the patient to convert callous to bone, or that the callous may become hypertrophic, which is equivalent to deficient development, or that he has the primordial spark to even generate a true bone deposit. The fact would be that he was treated upon scientific principles, and, if the constitution was correct, he would have union. Once more, an oblique fracture may be properly reduced and fixed, but when union has taken place, deformity, shortening, or some impediment in the proper muscular activity of the parts are obvious, which may be permanent or temporary. These are conditions which the first physician should fortify himself against, for "there is no artisan of Æsculapian fame whose welding of a broken bone merits the approbation of its maker divine." Do not be afraid to tell the patient, or some member of the family, that some deformity is the rule, that there may be some muscular interference owing to extra callous or other unaccountable or uncontrollable contingency. Make it a rule to set yourself right and honestly before the patient or family, at the outset. No one is belittled for what is right, and I believe it will have a tendency to minimize the discouraging reports we are compelled to read in the different journals.

I believe, as a rule, results in the treatment of fractures are good, and perfect results the exception, but there are two contingencies with which we may be called to deal, mechanical disability, with its causes and results, and non-union, either by displaced fragments or a false joint. Lane, in the *Edinburg Medical Journal* for January, states that it is ridiculous to think that disability is a rare sequence, or that ununited fractures are not of common occurrence. Such has not been my experience.

Our responsibility is two-fold; scientific examinations and treatment. The treatment must be upon sound surgical principles. The examination must not only consist of the immediate history of the case, but of the history of the patient as to rheumatic diathesis, mercurial medication, syphilis, constitutional dyscrasia, rickets, and all conditions bearing upon deficient osseous development. It is equally expedient that the patient should freely divulge all physical secrets to the doctor; then, if the case be treated scientifically and unfavorable results are produced, we can and should be professionally and honestly supported, whether we meet with abuse or the case pass into other hands. Let us bear in mind that most of our patients come to us second-hand, and from time to time some of our patients pass to other doctors. So while there is a kind of reciprocity on the part of the patient toward the doctor, let us start the new century with a magnanimous, fraternal spirit, helping the weak, supporting the honest (though unfortunate) and let our acts demonstrate our faith that when we are up we will help those who are down, and, when we are down, those upon the wave of fortune will extend the loyal hand, and the practise of medicine will grow brighter day by day.

PRACTICAL REMARKS ON THE TREATMENT OF SPECIFIC URETHRITIS.

BY L. J. DAVIS, M.D., WATERTOWN, N. Y.

OF all the diseases of the genito-urinary tract perhaps the most intractable to treatment is specific urethritis, or gonorrhea, this being due in great part to the fact that the patient often follows the advice of a prescribing pharmacist or a sympathizing friend before consulting the physician. Probably in no other disease have there been so large and varied an array of therapeutic agents. As is now well understood by every student of medicine, gonorrhea is caused by the gonococcus discovered by Neisser, in 1879, this organism producing an intense inflammation of such mucous membranes with which it comes in contact. While we are beginning to more fully appreciate the grave character of the disease, there is still much necessary work to be done in educating the laity as to the true character of the disease, and the subject of its prophylaxis is attracting a greater share of attention.

In an address delivered before the Conference for the Prophylaxis of Venereal Disease, held at Brussels, September, 1899, Professor Albert Neisser (*Medical News*, January 13, 1900) pointed out that the impression continues to obtain in medical minds that the only venereal disease to be feared is syphilis, although the more recent experiences in scientific medicine have demonstrated that, for the female sex at least, gonorrheal infection is far more dangerous. With the exception of measles, he considers it the commonest of infectious diseases. A very interesting discussion recently took place before the New York County Medical Society (*Philadelphia Medical Journal*, April 6, 1901) in which Professor P. A. Morrow expressed himself as follows on this subject: "In the estimation of the laity, the relations of gonorrhea to the public health would be regarded as of no more significance than a catarrhal inflammation of any other mucous membrane, and, less than a quarter of a century ago, this opinion would, perhaps, have been shared by many medical men. But within recent years our conception of the pathological import of gonorrhea have been singularly amplified, not only as regards its chronicity, but especially its etiological relationship to many morbid states of the general system. To-day we recognize it not only as the most widespread, but also as one of the most serious of infective diseases; it has risen to the dignity of a public peril." Professor C. Kopp, one of the most prominent

genito-urinary specialists, thinks that, in view of the general futility of all efforts to prevent the spread of gonorrheal infection by legislation or by educating the public to a higher standard of morality, individual prophylaxis by means of antiseptic agents is of much greater importance.

The writer has made a special study of gonorrheal therapeutics during the past five years, and has been strongly impressed with the fact that the internal treatment and the use of nauseous drugs, which frequently give rise to derangement of the stomach and kidneys, is becoming a thing of the past. In view of the discovery of Neisser that gonorrhea is solely caused by the gonococcus, that the affection in its early stages is limited to the anterior urethra in the majority of cases, and also that the gonococcus is susceptible to the antiseptic action of certain remedies, local treatment seems to be the rational one. This being the case, what shall be the method?

The researches of Créde, first brought to my attention when a student in the Lying-In Hospital, that nitrate of silver in one per cent. solution is a most efficient remedy in ophthalmia neonatorum, which is usually of gonorrheal character, gave me the basis upon which to work. It is not my intention in this article to enter into an exhaustive study of the treatment of gonorrhea by the numerous and varied preparations in use at the present time, but to confine my remarks to one of the more recent silver derivatives, which in my hands has rendered most valuable service. The drug referred to is an organic combination of silver, known as protargol, which possesses three qualities of especial merit: First, it is non-irritating. Second, it is not precipitated by albumin, sodium chloride, or alkalies, this, according to Neisser, giving it a penetrating power not possessed by any other silver salt, and obviating the objection to other local antigonorrheal remedies of forming insoluble or inert compounds. Third, it is absolutely destructive to the gonococcus.

Having reduced the treatment to a local one, and that by the use of protargol, what shall be the method? First: The bowels are to be thoroughly moved and kept free during the treatment. The diet should be restricted. Abstinence from all alcoholic beverages and a reduction in the amount of tobacco. When the urine is markedly acid potassium citrate should be given to render it alkaline and also as a prophylactic against chordee; and if there is tenesmus, tincture of hyoscyamus is to be added. Absolute rest, as far as possible, should be enjoined, and plenty of an alkaline water should be drunk during the day. Second: Protargol in one-half to three-fourths per cent. solution is to be used as an injection, with a blunt-pointed syringe. The irrigation method in my hands has not been a success, and in the majority of cases is dangerous, by reason of the complications that may arise from its use. Any instrumentation of the urethra is apt to carry the infection further back, and produce new foci in the deeper portion, which certainly will delay the cure as well as cause the patient additional suffering.

When shall we begin the injection? The gonococcus lodging in the urethral mucous membrane finds a soil favorable to its growth. Here it multiples with great rapidity, at the same time migrating to the deeper structures of the urethra. The injections, therefore, should be begun as soon as the diagnosis is made. This not only hinders the growth and migration of the gonococcus, but lessens the amount of inflammation and destruction of tissue, thereby reducing the liability to stricture.

How shall the injections be made? I provide the patient with a syringe holding 10 c.cm., having a glass barrel and a blunt tip, being especially careful that the piston works freely, so that undue force may not be exerted. The contents of a syringe of this capacity will fill the urethra and smooth out the folds in the mucous membrane, thus bringing the medication in contact with all diseased portions. The patient is instructed to inject two syringefuls of a .6 per cent. solution of protargol, four times a day, each injection to be held five minutes. The success of the above treatment is illustrated in the following cases, briefly outlined:

Case I.—M. F., aged twenty-eight, papermaker; gonorrhea of two days' duration before presenting himself for treatment. He was given a .6 per cent. solution of protargol, to be injected four times daily, two syringefuls at each sitting, each injection to be retained five minutes. The patient reported in five days, at which time the discharge was thin, and most abundant in the morning. The treatment was continued for five days, when the discharge ceased. The patient was then given a 0.75 per cent. solution to inject night and morning. He was dismissed cured, in four days more, and two weeks later was married, and has enjoyed perfect health since.

This case I consider a great victory for protargol, especially on account of the nervous condition of the patient because of his approaching marriage, the fact that no other medication of any kind was used, and the short time in which the cure was effected.

Case II.—J. F. B., aged forty, bartender, took the advice and medication of friends for three weeks before presenting himself for treatment. Microscopic examinations showed gonococci very abundant. Chordee was very severe at night. This patient positively refused all injections, but was quite willing to take internal remedies. He was put on a balsamic preparation, and given potassium citrate and tincture of hyoscyamus for the chordee and frequent micturition. The patient reported in seven days, saying that he was not better, but wanted another bottle of "that same stuff." I again advised injections, but without avail. He returned in six days, saying he thought he was a little better. Examination still showed abundant gonococci, and an injection of a 0.6 per cent. solution of protargol was now insisted on, which the patient finally agreed to use. This was to be employed four times a day, as in the previous case, he promising faithfully to carry out the instructions. In seven days the discharge was nearly gone, and completely arrested in seven days more. The patient was then ordered zinc sulphocarbolate in one-half-per-cent. solution, for its astringent effect, to inject night and morning, and was dismissed cured in four days.

Case III.—A. W., presented himself seven days after noticing a discharge. There was severe chordee, and urination increased to every thirty to sixty minutes. He was given potassium citrate and tinct. of hyoscyamus four times a day, and a 0.6 per cent. solution of protargol to inject four times a day. He reported every day for sixteen days, when the discharge stopped. Protargol injections 0.75 per cent. were continued for five days, when the cure was complete.

Case IV.—F. H., aged 30, railroad brakeman, has been treated in a neighboring town for four weeks, and getting worse all the time. At my first visit I found him in bed suffering from a considerable discharge and very severe orchitis. The testicles were supported, and hot stupes sprinkled with laudanum ordered every four hours. Capsules of santal oil, five minums, and oil of cassia, one minim, were administered every four hours. The patient came to my office on the third day, when

he was given a 0.6 per cent. solution of protargol to be injected four times a day as before outlined. He returned to work in three days, and reported in eleven days with discharge entirely arrested. He was given a ½ per cent. zinc sulphocarbolate solution for an astringent, to inject night and morning, and cured in four days.

Case V.—Two months later the last patient appeared with a new infection noticed the day previous, having come ninety-two miles for the same treatment. I put him on a 0.6 per cent. solution of protargol to be used as before. He returned in seventeen days stating that the discharge had ceased, but that he was keeping up the injections. He declined the astringent wash. I have seen him several times since, and he is perfectly well, and never had any return of symptoms.

Case VI.—H. E. S., aged 23, carpenter, presented himself the second day after noticing the symptoms. The microscope showed gonococci present. The patient was given a 0.6 per cent. solution of protargol to be used four times a day. This case was never seen again by me, and I refer to it only from the fact that the patient sent a friend to me some four weeks later with the statement that my medicine was all right, as I had cured him with one bottleful, his statement being verified by the friend.

Case VII.—F. M., aged 21, mechanic; gonorrhea of sixteen days' duration. The discharge was gleety, the microscope showing numerous gonococci; urination was frequent and painful, and on one or two occasions slightly blood streaked. Posterior involvement suspected. He was given potassium citrate and tinct. of hyoscyamus every four hours, and a 0.6 per cent. solution of protargol to be injected four times a day. This patient lived in a neighboring village, and reported every week for three weeks, when the discharge had stopped. Protargol in 0.75 per cent. solution was continued twice daily for another week, and since then there has been no return of the disease.

Case VIII.—P. M., aged 19, clerk, presented himself four days after noticing symptoms. He was given a 0.6 per cent. solution of protargol to be injected four times a day. I saw him in six days when the discharge was very much diminished and thin, and at the end of five days more it had ceased altogether. He was given a 0.5 per cent. solution of zinc sulphocarbolate as an astringent to inject twice daily in order to complete the cure, which occurred in four days.

Case IX.—H. D., aged 33, bartender, was seen two weeks after first observing the discharge. He complained of some chordee and frequent micturition, and had a slight orchitis. It was absolutely impossible for the patient to quit work and he was given potass. citrate and tinct. of hyoscyamus four times a day, and a snug fitting suspensory. Protargol in a 0.6 per cent. solution was ordered to be injected four times a day. I saw the patient in six days, when the symptoms had abated, but were still quite severe. He reported again in seven days, when the discharge was thin and scanty, continuing another week under the same treatment. The discharge ceased on the twenty-third day of treatment, and on the twenty-fifth day he was given a 0.5 per cent. solution of zinc sulpho-carbolate to inject three times a day, and dismissed cured on the thirtieth day.

Conclusions: Commence treatment as soon as the diagnoses is made. This I know is in contradiction to some of our most eminent authorities, but considering the unirritating qualities of protargol and the results obtained, I shall pursue the same plan in the future. Continue the injections twice daily for four or five days after the discharge has disappeared. Following the injections of protargol with an astringent does not seem to be of any benefit; cases in which the latter was not used did equally well. Have the patient lie down as much as possible. It will be noticed that in the above cases those which ran the longest course were in bartenders who were obliged to be on their feet all day, and the retarded recovery cannot be attributed to "nipping" as Case IX was in a patient who was strictly temperate. On the other hand, in Case VIII, in which the discharge ceased in eleven days, the patient went home at the beginning of treatment and stayed there until cured, with the exception of one or two office calls.

ACNE VULGARIS.

BY ELLICE M. ALGER, M.D.,

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ACNE should be more interesting to the general practitioner than almost any other skin disease, because of its frequency and because he almost invariably is first consulted as to its import and treatment.

It is surprising how often, notwithstanding the manifest mental distress of the patient, cases are dismissed with the comforting assurance that in four or five years it will be outgrown, or, at any rate, that it will disappear after marriage. Such a course is a great mistake, for trifling as the disease may seem to the physician the disfigurement and the prevalent ideas of the laity on the subject not infrequently imbue the young subject with a self-consciousness that remains an unfortunate habit long after its cause has ceased to exist.

Acne is pre-eminently a disease of youth, appearing alike in both sexes, at about the age of puberty, and disappearing naturally, in most cases, with the attainment of full maturity. Essentially it consists of an inflammation of the sebaceous glands and the perifollicular tissues, and the prerequisite is the presence in the follicle of a comedo, or blackhead. Sometimes the disease goes no further than this, and we see a patient with a face all studded with these black points, while the skin itself, though thick and indolent, shows hardly any evidences of inflammation.

In other cases the comedo has acted as a plug in the mouth of the follicle, which has become very much distended by the accumulated contents; in still other cases the contents has become infected by the pyogenic germs, which swarm on the surface of the normal skin, and numerous swollen glands are seen, tender to the touch and giving every sign of a suppurative process within. In the great majority of cases we find lesions of all these kinds existing together. Sometimes the disease is confined to the face, but very often it extends to the back and chest, while in exceptional cases where the infectious element is particularly well marked, or the skin unusually dirty, the lesions may be present almost universally.

The diagnosis is generally very easy. A skin disease consisting of blackheads, papules and pustules, resulting from the inflammation of the contents of sebaceous glands, and confined to the face, neck, back and chest, could hardly be anything but acne, though it must always be remembered that other skin eruptions may possibly occur at the same time. For instance the secondary papular syphilide might at first sight very

strongly resemble acne, but leaving out the history, the hair fall, mucous patches, and other constitutional signs, the syphilide would occur more universally over the body, would run a more acute course, the papules would not invariably begin on the site of a comedo, and would possess certain indescribable, but noticeable, differences in color.

Rosacea is another disease occurring on the face, which is frequently confounded with acne, and the two at times appear together. But the distinction is plain. Acne is a disease of adolescence, and rarely lasts after twenty-five; rosacea is a disease of maturity, rarely beginning before twenty-five. Acne occurs on the chest and shoulders, as well as on the whole face, while rosacea is confined to the front of the face. Acne is distinguished by blackheads, and papules and pustules, which are wanting in pure rosacea, and very superficial in clinical rosacea. The essential feature of the latter is the redness caused by the presence of dilated blood-vessels, which can be easily distinguished in the skin.

In examining microscopic sections of acne papules it has always been observed that the horny layer of the skin about the follicle mouth is very much thickened and the opening somewhat occluded. The gland wall is usually hypertrophied, and the follicle mouth is plugged with the so-called blackhead, which does not consist always, as is popularly supposed, of dirt, but variously of epithelial débris, inspissated sebum and sometimes of small hairs. The color of the comedo is due, like the color of cow's horn, to the light-refracting properties of dried and packed epithelial cells. Among the organisms found in the contents of the acne lesion is the demodex folliculorum, which, however, has apparently nothing to do with the production of the disease. The different pyogenic organisms play a more important part, for they transform a papular acne into a pustular one, in which, if the process is extensive enough, the follicle may be entirely destroyed, and disfiguring scars left behind.

In the light of this pathology we must revise many of our ideas concerning the etiology of the disease. In years gone by, as the red nose of rosacea was thought the certain indication of the toper, so the pimples of acne were thought to indicate excess of another kind, but now we know that both suspicions are equally unjust.

Doubtless sexual irregularities, like constipation or dyspepsia, may aggravate acne in patients already affected, but if any of these were first causes we may be sure acne would not by any means be confined to the young.

Adolescence is the only real predisposing cause of acne. At the time when the boy or girl is approaching manhood or womanhood there is normally a great increase in the development of cutaneous structures. There is an increase in the size of the hairs already present on the body, and corresponding growth of hair in other regions. At the same time there is a physiological hypertrophy of the secretory glands of the skin, and of its corneous layer. In certain individuals, where these changes take place gradually, this superfluous epidermis is exfoliated naturally and easily, the gland secretion is extruded on the surface, as nature intended, and the smoothness of the skin is hardly changed at all. In less favored patients, this corneous material is retained too long, and tends to close over the mouth of the follicles, or there is possibly a disproportion in the growth of the follicle mouth and the follicle wall, at any rate the sebum denied a free exit dies and forms the familiar blackhead of acne punctata. Behind this plug the sebum continues to collect, forming the little tumors of acne papulata, and when, to this process germ infection is added, acne pustulosa results. After a time, it may be years, the outer layers of skin cease to be too long retained, or the equilibrium between gland secretion and excretion is restored, the sebum is once more normally discharged, and the disease disappears. In certain individuals of what used to be called the strumous type, these pathological conditions may persist in an aggravated form till, with age, the elements of the skin begin to atrophy. This condition, called acne indurata, is apt to occur especially on the back, where the skin is naturally thick and sluggish, and where the papules and pustules become unusually large.

These pathological processes, which take place spontaneously in young adults, may take place at any age, under the influence of certain drugs. The bromides and iodides, by retarding tissue change, cause a blocking of the sebaceous orifices, while by lessening the vital processes of the skin they make infection with pus organisms more likely.

On the other hand, certain local irritants, like croton oil or kerosene, are capable of causing an inflammatory swelling about the follicle mouths, which effectually prevents the natural discharge of the contents, and if long enough continued may cause a folliculitis, which is quite independent of any heaping up of the corneous layer of the skin, and the same condition may be caused by the local irritation of germs. These last will be called acne or not, according as we apply the name, whether to the pathological process or to the final clinical result.

To treat acne successfully one must always have its pathology in mind. The skin cannot perform its functions properly if other organs are not doing their work, so it is advisable to make an examination of each patient for troubles which, like indigestion and constipation, anemia and nephritis, if untreated, might hinder a cure.

The routine use of drugs internally in acne is seldom necessary. Arsenic, by its power of increasing cornification and hastening exfoliation of the skin, has a distinct value at times, but it is counterindicated in cases where there is decided inflammation, and had better be reserved for old cases. In addition to increasing the cutaneous circulation, arsenic has an invigorating effect upon the blood itself, and doubtless is of value in pustular cases, by increasing the resistance of the skin to pyogenic organisms.

In a large number of cases, especially in young girls, there is present the anemia so characteristic of that period, and here iron, in some form, is of distinct value, it being very often possible to combine advantageously iron and arsenic.

Of the internal remedies which are supposed to exert a direct action against the formation of papules and pustules, like the sulphide of calcium, I cannot speak favorably.

Our chief reliance, in the great majority of cases, must be on local treatment which is in the main very successful. It is self-evident that if we can prevent the heaping up of epithelium about the mouths of the follicles, in many cases the disease will work it own cure very shortly. This can be accomplished best by one of the dermal curettes, of which there are quite a number on the market. The choice depends on the operator's personal preference. The skin is put slightly on the stretch, and quite vigorously scraped, so as to remove the tops of the papules and pustules, and the epithelial heaps about the follicles, and this at the same time exerts a stimulating effect on the skin itself. The blackheads should all be carefully removed, and the pustules opened and disinfected with peroxid of hydrogen or fifty per

cent. carbolic acid on an applicator. It must be borne in mind that to scatter this pus on the surface is simply to sow the seed for a fresh crop of lesions. This mechanical treatment I regard as very important, and it should be repeated several times a week if necessary, or as often as the recurrence of lesions makes it advisable. Meantime, at home the patient should make continuous applications of hot water to the face at least once a day, and use a coarse towel, with the idea of supplementing the office treatment.

The choice in local applications depends very largely upon the condition present in each case. Where there are numerous blackheads present, but not many pustules, the following will be found effective:

℞ Hydrarg. bichlor.....gr. ii.
Resorcin .....ʒiss
Aq. rosae, p. s. ad.....ʒiv.
M. Sig. Apply to face several times a day.

This application should be made often enough to cause considerable exfoliation of the outer layers of the skin, but without inflaming the face to any extent, and its use gradually discontinued as the local condition permits.

In the cases where pustulation is a marked feature sulphur is far more useful than resorcin, and the following makes a useful, if not a very elegant preparation, the strength of which can be varied to suit individual conditions:

℞ Sodii hyposulph .....ʒiv
Sulphuris .....ʒi
Aq. rosae, add.....ʒiv.
M. Sig. External use, as directed.

Care must be taken not to use bichlorid and sulphur at once on the same skin.

After the skin is smooth enough so that visits to the physician are no longer necessary, it is well to advise for continuous toilet use a good resorcin or sulphur soap, to guard against the occasional outbreaks which may follow some dietetic indiscretion or a menstrual epoch.

Individual lesions can often be aborted in their infancy, by passing into the follicle a blunted needle dipped in carbolic acid, or by painting with pure ichthyol over night.

When the skin remains clear, but rather rough and very dry, I have found the following formula useful:

℞ Resorcin .....gr. xx
Ol. theobrom .....ʒi.

which can be perfumed to suit the taste, molded into stick form, and used indefinitely.

In acne indurata of the back, in which the skin is very thick and indolent, and certain to be eventually badly scarred, one can use means which would not be permissible on more delicate portions of the body.

I direct the patient to have his back scrubbed vigorously every night with a nail-brush, hot water and one of the strong washing powders. These all contain strong alkalies, which soften and remove the superfluous epidermis, and any pustules which escape this rough treatment can be opened and disinfected. A saturated solution of hyposulphite of soda makes the best lotion for these cases, which need internal remedies like cod-liver oil and syrup of the iodide of iron, in full doses.

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TWO CASES OF PARALYSIS.

BY PROF. A. M. PHELPS, A.M., M.D.

CASE I.—This child I operated upon about ten days ago. It was a case of spastic paralysis. The lesion is located in the lateral horns of the cord or in the brain. It differs from infantile paralysis in the fact that infantile paralysis is due to lesions located in the anterior columns of the cord. In spastic paralysis we find contractures, the limbs are usually drawn together, feet turned inwards and all the muscles are affected by the permanent tonic contraction. That contraction can, by manual force, be overcome and the limbs placed in a straight position when the deformity first ocurs, but after a very few months the more powerful muscles undergo change and the fibrous portion becomes permanently shortened, then we say that the muscle is contractured. At first there is always a contracted condition of the muscle, which becomes permanent or contractured.

In paralysis due to lesions of the anterior column of the cord, groups of muscles are paralyzed and then on account of the paralysis of these groups of muscles contraction of the healthy muscles occurs which causes deformity. One can easily make a diagnosis. In infantile paralysis the foot is usually turned out, producing a condition of valgus; or inward, producing Varo Equinus. In spastic paralysis the foot almost always turns inward and the foot is rigid. The reflexes are greatly exaggerated in spastic paralysis. For a continuance of the subject of the etiology and pathology of this disease I refer you to the neurologist. The province of the orthopedic surgeon is the mechanical and operative part, but it is necessary for you to know something of the cause of these conditions before we proceed with our treatment.

A case of spastic paralysis in a female is very serious for the reason that the limbs are flexed at the knee. The great adductor group of muscles cross the legs, and if that condition prevails during adult life you can easily understand that it is a serious condition. It is impossible for a girl or a woman so afflicted to keep themselves clean, and then when it comes to the period of child-bearing, there will be great difficulty experienced at the time of labor; the limbs being affected by spasm and drawn up you can easily understand how difficult it would be for such a woman to give birth to a child, so we are called upon to do something. What will we do? What we have done up to ten years ago in these cases was to do an occasional tenotomy and apply braces to hold the limbs as best you could. Among a certain class of orthopedists it was thought no cutting was ever necessary, while others thought it the best thing to do. These two methods have failed utterly and it was on account of this failure that I was led to seek a new line of action. It is this: Muscles which produce deformity, the more powerful muscles which are affected by spastic paralysis by a permanent tonic contraction, no matter whether it can be overcome by manual force, all of those muscles should be destroyed, and when you have destroyed the muscle which produced this deformity you can then easily adjust braces and put the child in a condition so that she can walk without or with crutches.

This operation was received with a great deal of disfavor, as all operations are received. They said if you

* Abstract of Clinical Lecture Delivered at the New York Post-Graduate School and Hospital, March 25th, 1901.

destroy the ham-string group of muscles you endanger the usefulness of the limb. As a matter of fact you do not materially injure the limb. I could walk nearly as well without the ham-string group of muscles as with it. What muscles will you destroy? The entire adductor and ham-string group of muscles. How? Through an open incision cut the ham-strings. Pull each tendon out as far as you can and cut it away; destroy it. Cut the adductor subcutaneously. You will then cut the tendo-achillis subcutaneously. Do you destroy the gastrocnemius muscle? No. This muscle is an exception. There is a muscle which the patient will have to have in order to prevent his falling on his face when he walks. You will not destroy the tendo-achillis, simply divide it, and pull the foot up in the superflexed position and the contraction of the muscles will separate the ends three or four inches. The tendon may have to be lengthened from time to time, if it contracts again. What are you going to do with the adductor group of muscles? You can destroy their power perfectly, therefore, proceed and divide the adductor group of muscles subcutaneously and put the child out in the spread eagle position, enter your knife one inch from the bone, at the pubis, and cut directly through all that group of muscles clear down to the artery. Are we going to cut any arteries? No. After you have divided this group of muscles down to that point then with greater force you render asunder all that portion of the muscles you have not cut. The child is now in a good condition to wear a brace and these powerful muscles will not pull against it and produce excoriations.

One difficulty encountered in bracing has been excoriations, which always result from the muscles pulling the foot against the brace, but when the muscles are destroyed then we can properly brace our case without fear of excoriations.

Case II.—This is a case of infantile paralysis. I have no history of the case, but the patient was well until three years ago, and after teething he lost the use of both legs. After ten months could use right leg. Brace was fitted one year ago, which the patient has outgrown. In spastic paralysis that limb would be perfectly rigid so that you could not bend it and the limb would be drawn up across the opposite one. The first thing to be done with this child is to divide the contractured muscle and put his limb parallel with the other. He will overcome the paralysis to a certain extent so that the probabilities are that he will only require an ankle brace by the time he is fifteen. He has been walking upon the inside of the ankle producing a condition of valgus. This is pronounced, and the plantar fascia should be cut and lengthened at once, and when the contractures are overcome a brace can be fitted so that the limb will be held absolutely rigid.

BLINDNESS FROM HABIT. AMBLYOPIA. STRABISMUS

BY NORBURNE B. JENKINS, M.D., CHICAGO.

MANY suppress the sight of one eye unconsciously. This often becomes a habit and causes partial blindness, called amblyopia. In the beginning this blindness is functional. In cases of long standing there are organic changes from non use. Some have this blindness together with crosseye and cockeye. With these exceptions eyes affected with this amblyopia seem normal even when examined with ophthaloscope. In most cases the eyes appear perfectly straight. Vision varies greatly. In many it may be all but normal; in some little more eyesight remains than perception of light. A working theory should explain the origin, cause and prevalence, duration and history of this blindness, and also its always coming in but one eye.

An improper glass or an ill-shaped eyeball may cause subnormal vision. This is easily mistaken for partial blindness. On the other hand, there may be amblyopia and a perfectly fitting glass may be wrongly supposed the cause of the subnormal vision. In this blindness a glass may greatly improve the vision, still, even with a perfectly fitting one, vision is subnormal. A test is reading fine print through a pin hole in a dark card. If the print is distinct a proper glass or the simplest treatment usually brings normal vision, for there is little or no amblyopia. If the ophthalmoscope shows nothing wrong and the print can not be read, the eyeball may be too small. If the eyeball is too small and there is little or no amblyopia, the pin hole card and a magnifier of about 10 D will make the print distinct. In young or unintelligent patients it is often impossible to diagnosticate amblyopia.

According to the teachings the congenital form is the most prevalent of amblyopias. Amblyopia may never be congenital. There are no proofs of and no good reasons for its existence at birth. It often comes early in infancy and childhood. After birth many things interfere with the function of the eyes. An eye may be normal at birth and its function may never fully develop. The form of partial blindness, described in text books as congenital amblyopia, probably develops early in life from some of the causes ascribed to the last form of amblyopia described in this paper.

Crosseye blindness is called amblyopia exanopsia. It is best studied in bright, attentive children when trouble is first noticed. In most cases of beginning crosseye the vision of both eyes is about normal, consequently there is double vision. Blindness of one eye develops rapidly. If the amblyopic eye is used for vision, while the other is bandaged or kept under atropine, blindness and crosseye commonly disappear in a week or two, only to return when bandage or atropine is left off. As soon as the vision improves double vision comes if there is still crosseye. A few weeks use of atropine and bandage, followed by proper glasses, usually restores vision and strengthens the eye in beginning crosseye. As much care is taken in bandaging as after major operations on the eyeball. If the child slips the bandage or peeps through its edges and sees with both eyes at the same time, the work of a week may be lost in a few hours. The worse eye may be bandaged one or two days in the week and the better one left uncovered, for an eye should not be tied up too long at a time. When the eye can be kept straight with atropine proper glasses usually cure crosseye.

In confirmed crosseye persistent use of spectacles, atropine, bandage, and the ground glasses below described make fewer operations. Surgical methods should not be resorted to, even in adults, until all other methods fail. Glasses that come anything like to fitting, will, without other treatment, straighten crosseye in many and restore vision in few. In crosseye the two eyeballs are usually unlike and the focusing muscles are different in strength, consequently spectacles with the two glasses alike seldom or never suit. The better glasses fit, the greater the likelihood of keeping the eye straight and retaining regained vision.

A form of amblyopia shows itself in infancy and childhood, is common in middle age, but is most prevalent in old age. It comes in but one eye, may exist for years unknown and be confused with amaurosis and other

amblyopias. Loss of vision may be slight or extreme, may be rapid in its course or years developing. In a few cases there is unnoticeable cockeye. The outer side of the field of vision suffers least, probably because the corresponding portion of the retina never sees objects which can be seen by the sound eye. This seems to show that this blindness is suppression of function to avoid double vision, dissimilar or blurred images.

The causes of this amblyopia are: Two eyes are not exactly alike; ill-shaped eyeballs; improper glasses. These sooner or later cause blurred, dissimiliar or double images. If the two eyes are not alike, each eye should have its own particular glass; shop spectacles should not be worn, for all these have two glasses exactly alike and can not suit unlike eyes. If such spectacles suit the worse eye, they are too strong for the better eye, which in time becomes amblyopic; if they suit the better eye, they are too weak for the worse eye, which may become amblyopic. Shop spectacles suit about half of the aged.

If the difference in the refraction of the two eyes is more than about 2 or 3 D, the worse eye may become amblyopic, and if so, loss of vision is, as a rule, slight or of medium degree and comes on slowly; if the difference is less than about 2 or 3 D, the better eye usually does become amblyopic and the rapidity and degree of blindness are variable.

Most of the nearsighted have this form of amblyopia at some time of life. If proper reading glasses are not used, they hold print so close to the eyes that suppression of the sight of one eye is a matter of time. Much accommodation and no convergence is necessary to read with both eyes in nearsightedness, and since "there can not be much convergence without accommodation," this form of amblyopia and sometimes cockeye result. If there is no accommodation the eyes may converge too little while reading, may be held as if looking at distance.

In amblyopia vision often becomes normal by wearing ground (opaque) glass together with ordinary spectacle glass. The glasses are round, of the largest size, and so arranged in the frames that both eyes can not see any object at the same time, can not be used for vision at the same time. When the worse yee is in use, the better eye is covered with ground glass, and when the better eye is in use, the worse eye is covered. In cases of long standing there may be necessary: A pair of such spectacles for reading with the better eye; a pair for distant vision with the better eye; a pair for distant vision with the worst eye; combinations. In early stages ground glass over or atropine in the better eye usually brings normal vision. If amblyopia is of long standing recovery is doubtful or slow, and the amblyopic eye should be used for weeks for distant vision only lest its weak accommodative apparatus be ruined. The glasses should fit closely to the nose, so that the patient can not see through the opening between frames and nose. If there is no improvement with such spectacles, a bandage should be worn on the better eye for two or three weeks, when if there is no gain the case is probably hopeless. The spectacles should be worn without intermission until vision becomes normal and until both eyes are fitted with reading glasses. As in straightening crosseye, success in restoring the vision in amblyopia depends upon proper glasses more than all else.

References: *Annals of Ophthalmology*, January, 1899, page 14; *Medical Record*, December, 1898, page 912; *Philadelphia Medical Journal*, May 18, 1901, page 978.

SATYRIASIS: A STUDY IN MEDICAL JURISPRUDENCE

BY N. E. ARONSTAM, M.D.,
AND
LOUIS J. ROSENBERG, LL.B., DETROIT, MICH.

Definition.—Satyriasis may be defined to be an incessant sexual desire with erection. This condition is an erotic delirium, or rather a state of psychic excitement, in which an abnormal intense sexual impulse is prominent. Strictly speaking, it is a psychosis and not to be associated with any disease of the genitalia proper. This sexual morbidity is not infrequently confounded with priapism, yet, there is a vast difference between these two maladies: in priapism, there is a continuous erection of the organ, but *unaccompanied* by any erotic desire; whereas, in satyriasis, *both* of these phenomena exist.

This subject has been considerably neglected by writers on Medical Jurisprudence, yet its gravity is obvious.

Satyriasis does not unfrequently come up in connection with cases of divorce and rape. Cruelty is one of the main grounds for divorce, and it is under this heading, that this morbidity is enrolled. Were the plea to be made upon the basis of mental disease, satyriasis would rest upon the same footing as insanity, viz., it would only be a ground for divorce, provided the malady was contracted prior to marriage. Hence this psychosis is usually made a plea of cruelty.

This question also comes up in cases of rape. We are thankful to a friend of ours, a member of the Bar, for the following case:

In the little village of C——, F——, was accused of having raped several women and assaulted a good many more by his passionate aggressiveness. After many futile attempts, the police finally secured the culprit. His defense was insanity. Upon inspection it was found that he was extremely satyriatic. Close examination revealed symptoms of intra-cranial disease. A year later the man died, and on post-mortem a tumor of the brain was detected.

In the present essay we shall not discuss as to what constitutes *legal cruelty*. This more properly belongs to the department of Criminal Law. Besides, what would be cruelty in one State, would not be in another. Suffice it to say, however, that though cruelty in the legal sense of the word must always be *wilful*, yet, of the conduct results from an *insane delusion*, it may constitute cruelty. (Smith vs. Smith, 40, N. J. Equity, 566.) Furthermore, excessive intercourse, impairing a woman's health, is always legal cruelty (Melvin vs. Melvin, 58 N. H. pp. 569-571.) Thus is it evident that satyriasis would clearly be a plea of cruelty.

Having sufficiently shown the legal import of the subject we may now appropriately give its etiologic factors.

Mania and melancholia may favor the appearance of satyriasis. Hullucinatory insanity, demonstrable lesions of the cerebrum and tumors of the pons Vorollii may likewise produce it. It may also occur during senility. Continence, inducing repeated excitation of the sexual center, and phychic or peripheral stimuli, may favor the development of this condition. Pruritus scroti or ani is a good example of peripheral irritation in a person of a neurotic temperament. To the same category belongs oxyuris vermicularis. Indulgence in Venero and Baccho, and masturbation, are also likely to precipitate an attack of this condition.

So much for the etiology of the subject. But this is not all that the medical jurist is required to know. Of

far greater importance are the signs and symptoms of this condition, for it is really upon this, that the expert is called upon to give testimony.

The following are the *Signs and Symptoms:*

Satyrisis is an abnormal psycho-sexual state, though we sometimes find cases which we might justly term chronic. The essential element of this disease is a psychical hyper-sensibility, centralizing itself upon the sexual center. The imagination creates sexual images, which lead to erotic delirium. Even indifferent conceptions and ideas which do not really belong to the sexual domain, may excite lustful sensations. *The genitals are in a state of constant turgescence and erection.* An individual afflicted with this form of morbid sexuality seeks to satisfy his desire at any cost, irrespective and regardless of any consequence. The imagination is in a state of hallucinatory excitement, and the mind is filled with obscene images. The most sublime ideas, the most beautiful conceptions, the most artistic scenes, the most poetic productions are all tinged with effigies and shadows of sexuality. All the desires, reflections and ambitions of such individuals revolve wholly and solely around the sexual sphere.

This concludes the last division of our article, and brings the subject to a finale. Far be it from us to regard this essay to be a complete exposé of this subject. Still, we venture to hope that what has been here outlined, will amply serve the practitioner in all ordinary cases.

TWO CASES OF SUPPOSED CARCINOMA OF THE TONSILS.*

BY WILLIAM CHEATHAM, M.D., LOUISVILLE, KY.

I WOULD like to report two cases of supposed carcinoma of the tonsils. The first patient, a lady fifty-nine years, was seen in consultation. She had had disease of the left tonsil for eighteen months. The gentleman who had been treating her used methylene blue, and when she came to see me the tonsil was very much stained by it. She has a deep excavation of the left tonsil extending down upon the wall of the pharynx. The doctor says this ulceration healed completely under methylene blue, but there has been a recurrence. The fact that it healed entirely from the use of methylene blue and again breaking down made me suspicious about the diagnosis; there was slight glandular involvement and the disease had existed eighteen months. The only glandular enlargement she has it under the angle of the jaw.

I suggested to the doctor that it would be well to try anti-syphilitis treatment, and that it must be carcinoma, syphilis or tuberculosis. We could exclude the other two, so I think there is no doubt about this being a case of carcinoma of the tonsil.

Case 2.†—The second patient is a woman from Tennessee. She is also about fifty-eight or fifty-nine years of age. Last November her physician removed what might have been a supernumary tonsil; it was located in front of a very large right tonsil she now has; but it must have been a growth which he removed. The stump never entirely healed, it bleeds freely and she states that this tonsil has grown very rapidly since last November. She gives no history of cancer in the family. The tonsil is growing rapidly, the stump not having healed entirely although there has been no recurrence of the growth; the tonsil now extends beyond the median line, there is some pain, slight glandular enlargement, and it looks to me like this is also a case of carcinoma or sarcoma of the tonsil.

The physician removed either a supernumary tonsil or a growth with the tonsillotome; if it was a supernumary tonsil this was a dangerous operation at her age to do with a tonsillotome. I would not attempt to remove this tonsil with a tonsillotome, I would use a cold wire. Hot wire would act perhaps better in controlling hemorrhage, but secondary hemorrhage is much more likely to follow. I prefer the cold wire which crushes the large vessels, and I have never seen secondary hmorrhage following the use of it. Only a few drops of blood follows the operation. This is the procedure I shall probably adopt in this case.

DISCUSSION.

Dr. John R. Wathen: Diagnosis of carcinoma in these cases should be comparatively simple, because the tonsil is composed of adenoid or lympahatic tissue which in many respects resembles lymphatic structures in other parts of the body. If malignant the cancerous tissue would be epithelial in type, epiblastic in origin, and it would be squamous cell. The contrast is so great between flat cell epithelium and adenoid tissue that the diagnosis would be easily determined. A specimen would make a very pretty picture under the microscope. If you had a sarcoma, or tuberculosis of the gland it would be more or less difficult to diagnose in comparison with the epithelioma.

I have been especially interested recently in examining matastatic processes from various parts of the body. For instance infiltrated glands of the axilla coming from glandular carcinoma of the breast; infiltrated pelvic glands coming from carcinoma of the uterus, etc.

Dr. S. G. Dabney: Dr. Cheatham was wise when he tried specific treatment in the first case. I believe it is Noyes who states "When in doubt play trumps," meaning that where doubt exists in regard to the diagnosis of suspiciouus cases it is better to give anti-specific medication.

The cold snare is not always a guarantee against hemorrhage in the removal of tonsils in the adult. It is true the hot snare is more likely to be followed by secondary hemorrhage. A young woman, the daughter of a physician living in this State, came to my clinic and I removed her tonsils with the cold snare. The first one was removed without trouble, but after removal of the second there was such a profuse hemorrhage that it was the source of considerable anxiety.

Dr. M. F. Coomes: I saw the first patient referred to by Doctor Cheatham, she being sent to me for consultation and diagnosis. I have known the woman for thirty years, and, of course, have learned that anybody can have syphilis, but her throat did not look like a syphilitic throat. I made the diagnosis of cancer. There is not much to be done in the case except to wait for the final result.

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* Reported to the Louisville Clinical Society.

† Second case proved to be a small round-celled sarcoma: Tonsil was removed externally. No blood lost. Died suddenly the 15th day, of hemorrhage.

—It is not generally known that Thomas Jefferson failed as a speaker simply from lack of voice. His voice became guttural and inarticulate in moments of great excitement, and the consciousness of this infirmity prevented him from risking his reputation in debate.

THE CLINIQUE.

The Brand Treatment of Typhoid Fever.—W. C., aged thirty-three, laborer by occupation, and a native of Philadelphia, was admitted to the Philadelphia Hospital on January 2nd last, suffering from pain all over his body. His family history was negative, and he has had measles, pneumonia, malaria and pleurisy (?). The pains he complains of having commenced two weeks before admission and have been constant ever since that time. He also suffered from headache, loose bowels and thirst. On admission his temperature was 100° F., since when it has varied, running up to 103.4° F., and now being 102.2° F. The diagnosis rests between influenza and enteric fever.

On examination we see a tongue thickly coated posteriorly, with red edges and tip, and dilated pupils. The patient has no headache now, although he complained of it for two weeks previous. The abdomen shows slightly elevated rose-colored spots, which disappear on pressure, and the spleen is enlarged. The yellowish discoloration of the palms of the hands and the soles of the feet is an important symptom in enteric fever. The patient's pulse is markedly dicrotic, having a distinct double beat, just what we would expect in the beginning of enteric fever. Headache is also characteristic, usually lasting into the second week.

Treatment.—The Brand treatment enteric fever is, without doubt, the most efficient method of treating this disease. In carrying out this treatment it is necessary to take the patient's temperature every three hours, and whenever it reaches 103° F. in the axilla, give him a cold bath, at a temperature of 72° F. in winter, and 68° F. in summer. While he is in the bath pour cold effusions on his head, and have two nurses gently rub him, encouraging him to rub himself. After he has been in the bath ten minutes giveh im one-half ounce of whiskey, and the same should be given immediately on emersion from the bath, which should be fifteen minutes from the time he entered, when he should be wrapped in a blanket. If the patient is seen before the tenth day, give him a brisk calomel purge. The only contradiction to the Brand treatment is hemorrhage or perforation. Menstruation and pneumonia should not interfere with its performance. If the patient is seen at the end of the third week, and he has signs of marked cardiac asthenia, the physician should use his own judgment as to whether to put him into cold water or not. The temperature falls from one to six degrees one-half hour after the bath, but this is only an incidental effect, as the pulse becomes slower, the respirations fewer, and if before the bath the patient has had carphalogia, he now turns on his side and drops off to sleep.

The Brand treatment does not lessen the number of relapses, as, on the contrary, they occur more often, but the general mortality is reduced from 15 per cent. to from 7 to 7½ per cent. Nor is hemorrhage or perforation lessened in any degree. It is not necessary to use drugs in conjunction with this treatment, except strychnine and alcohol.

Treatment of Aortic Regurgitation.—A. D., aged forty-eight, a laborer by occupation, and a native of Philadelphia. He was admitted to the hospital on January 1st, suffering from cough, spitting of blood and loss of weight. Previous history is negative, he having been well until this time, and having none of the diseases of childhood. In performing his work as an oysterman, he became wet, paying no attention to it. On Dec. 26th last he began coughing and spitting up blood. He has pain on both sides and in the lumbar regions, and for some weeks past has been unable to lie on his back.

On inspection, the man is seen to be well-built. His apex beat is in the eighth interspace, a little to the left of the left sternal line. A pulsation is seen in the vessels of the neck.

Palpation confirms the impulse of the heart. No thrill is felt in the mitral or pulmonary area, but a marked systolic thrill in the aortic. The pulse is full, but on lifting his arm it is gone, so we diagnose a "water-hammer" pulse.

Auscultation shows a double murmur in the mitral area, both pre-systolic and systolic, the latter being transmitted to the axilla and the angle of the scapula. There is a well-marked to-and-fro murmur heard in the aortic region.

This is, then, a well-marked case of valvular disease of the heart, the lesions being aortic regurgitation, mitted September 12th. She had typhoid fever five years ago. For two months before admission, taking us back to the middle of July, she had had a persistent cough with sweats and fevers, and expectoration, sometimes blood-tinged. There was some pain in the back of her chest and over the sternum. For two weeks before coming here she had been confined to bed. She has had some violent attacks of vomiting, and on one occasion quite an amount of blood was expectorated, though no tubercle bacilli were found in the sputum. The expectoration has been rusty. The temperature, as a general thing, has been only up to 102°, being persistently subnormal for some time.

On the left side there are natural breath sounds from the apex to the base. On the right there is a distinctly bronchial character to the breathing, and the voice souunds approach the bronchophonic type. Dulness, absence of natural breath sounds, and vocal resonance approaching slightly bronchophony.

One word about the condition here. There is lung disease of some sort, but that is not enough to know the nature of the treatment and the outcome of the disease. I think the chances are that the woman has an inflammatory disease of the lung, and not tuberculosis, hence the prognosis is hopeful if not good, rather than hopeless, as if it were tuberculosis.

Our next is a colored woman, twenty-five years old, admitted September 14th. She is unmarried, and occupation is housework. She had some protracted fever when ten years old, has had measles and whooping-cough. Her present attack of illness began a month before coming to the hospital. She has had no shortness of breath. Her trouble began with a cough, and she was told by some physicians that there was something the matter with her heart and she was advised to go to a hospital. At one time she spit blood. Her temperature has been irregularly, not persistently, subnormal, as in the previous case. There is impairment of the percussion resonance over the lower portion of the right lung posteriorly, and I hear a few fine crackling râles, no bronchial breathing.

I will say a word in regard to the treatment of these cases. The end of medicine is treatment, yet as a general thing when your diagnosis is made the difficulty is over: the question of treatment is comparatively simple. I say comparatively little about it to you, not because it is unimportant, but because, when you have done these other things, you will know how to treat your patient.

The first patient who had a "cold," a bronchitis with congestion of the lung, with possibly typhoid fever, will

probably get well in a few weeks. We have been giving her five grains of carbonate of ammonium. calomel to get the bowels open, and a Dover's powder at night to relieve pain and produce quiet. The Dover's powder is an aid to cure as well as a palliative.

The second one, the girl in whom no tubercle bacilli were found, has been getting cod-liver oil, half an ounce t. i. d. and Dover's powder at night when necessary. For some time she had the Dover's powder every night for her violent cough.

The third case, the colored woman, has been taking Bland's pill, five grains t. i. d.; cod-liver oil in emulsion, one ounce t. i. d. (The emulsion is made 50 per cent., so this would be equal to one-half ounce of the oil.) Fifteen minims tincture nux vomica three times a day to aid digestion and act as a tonic.

This is the treatment they have been getting. It is satisfactory and I don't think it could be better. In the first case it is a matter of a few weeks probably. In the second case the lung is almost solid, in an inflammatory condition, and it will last about as many more months without getting well. In regard to the third. The physical signs in the two cases are very much alike. There is dulness on percussion over the lower right side in both cases; there is absence of the natural breath sounds, and a few fine crackles. And that is all in the white woman. In the colored woman there may in addition be a condition at the apex of the left lung; very likely the process is tuberculous. A further reason for thinking this is the woman's race. I said some time ago that I would not treat a colored person again without taking the question of tuberculosis into consideration. The tubercle bacilli are an important aid in diagnosis.

I am not altogether orthodox in regard to tuberculosis. It is universally accepted now that the tubercle bacillis is the "causa causans" of consumption. I believe that not all forms of consumption are due to the tubercle bacillus, but on the other hand this doesn't lessen the importance of the tubercle bacillus when it is found. It will probably denote a character of consumption that will go on from bad to worse. When a person begins with a slight cough and then expectoration of blood, and this increases, the probability is that it is consumption. The likelihood is that it is tuberculosis which will go on to the formation of cavities, the destruction of the lung, and the destruction of the patient.

One more thing; we have too much of a habit nowadays in talking about instruments of precision, consigning the question of diagnosis to scientists who live at a distance. They are good, but you won't get at diagnosis that way. They will help you very much, but don't undertake to turn over the question to them. You will often find abundant tubercle bacilli in persons who get well and live for years and years. Examine your patients, use the laboratories as aids, and reach your own conclusions.

Malaria Following Typhoid.—This man presents a condition which in the past few years has been the cause of much controversy. He had malaria some years ago and has recently been in the hospital with typhoid. He went out about four days ago, then he came back to the hospital day before yesterday with a slight fever and headache, and a general feeling of ill health. Yesterday about six in the morning he had a chill, followed by fever, with a temperature of 104° and sweat. The temperature on admission was 98° and yesterday evening it was normal again. We made a hurried examination of the blood and found the red corpuscles filled with hyaline bodies in various stages of development. There was no pigment at all in these. It is probably the tertian form of malaria, the form we most frequently have in this part of the country.

I brought him to show you that we do have malaria with typhoid fever. But according to my opinion, malaria does not seem to develop during the course of typhoid; we do not ordinarily have malaria directly with the typhoid. We had a number of cases last summer where, after convalescence from typhoid, the patient was taken with a chill and rise of temperature, and on examination the ordinary malarial organism was found in the blood. It is a question in my mind whether the organism lies dormant in the body before the infection with typhoid. The soldiers were all of them in a malarial climate and brought malaria with them. In several of the soldiers I thought it possible the malaria had been acquired in the hospital. There was work being done on the ground—earth being thrown up. Then, there were a good many mosquitoes around, and it is quite probable that mosquitoes are a means of transmitting the disease.

Dr. Osler of Baltimore, though he might have changed his mind since, has been known to say that there is no such thing as typhomalaria; that the two diseases do not co-exist.

There is little of interest in the case clinically. The man has the yellowish hue which malarial cases frequently have. The spleen is palpable.

So far as the treatment is concerned, we try to antedate the chill by moderate doses of quinine. We begin with four grains and give sixteen in the twenty-four hours. In this case we would start in the evening to antedate the morning chill. In places where malaria is more intense, much higher doses of quinine are given —forty or sixty grains a day. In the South, where they have pernicious malaria, they may have to use hypodermic injections of the salts in solution. This man has had only about thirty grains since he came in, yet he has had no chill this morning.

Apical Pneumonia.—This next case I think has been shown to you to illustrate one fact: the difficulty of diagnosis between apex pneumonia and acute phthisis. He is thirty-nine years old and has had pneumonia in the right apex. I have seen the very best of our physicians fall down on these cases. The apical pneumonia is usually grave, but I think nowadays we younger physicians are not so apt to see this; it is not so apt to be grave. Pneumonia, if well taken care of, is almost a self-limiting disease. This man is not getting well by crisis but by lysis.

We notice on his lips an eruption of herpes. Herpes occurs in two conditions more than in any other: in croupous pneumonia and in malaria; and this is a help in differential diagnosis.

The man is put simply on tonic treatment. Dover's powder, 3 to 5 gr., so far as this cough is concerned. If that is not effective, we can give a hypodermic. He has had strychnia, and some iodide; iodide of ammonia may be the best.

A Symptom of Tuberculous Peritonitis.—This patient has developed a symptom which I consider of great interest. It is a symptom which I was the first to figure in a plate, and I have not seen it mentioned in any textbooks except one which is now antiquated. This is the patient in whom we made the diagnosis, which may be wrong, of carcinoma of the stomach. She certainly has a tumor. I believe on the anterior wall, but I am beginning to doubt its nature, and there was some reason for doubting when the patient was first examined. You remember hydrochloric acid was found in the

ejected matter. The woman was so weak when she came in that it was not advisable to pass an instrument.

You will se about the umbilicus an erythematous condition which I have seen only in tuberculous peritonitis. A few years ago I figured this symptom in a drawing from a Blockley patient. I have seen it at other times. I do not say it is as valuable a sign as some others, but when you do see it in a suspected case of tuberculous peritonitis you may be certain that your diagnosis is correct. There are other symptoms here. The stomach and lower part of the abdomen are tense. The gastric symptoms seem to abate. She does not vomit, and she did not vomit very much in the first place. You will also see a marked irregularity of the whole abdominal surface; it may be because the fluid has accumulated here and there, or because the abdomen has become more retracted. There is a pronounced tendency to ecchymotic spots all over the abdomen.

Convalescence after Typhoid.—This little typhoid patient is improving; is becoming hungry. The temperature is normal. If she becomes clamorous for food, I would give a little gelatine to begin with. There is no nourishment in it, but it stops the hunger, and saves albumin waste. It must be made in a way to be the vehicle of nourishment by mixing it with milk. The milk may be peptonized, and may be flavored any way you chose, and this is not unpalatable. Then, I would not hesitate to give a little stimulant. Stimulants, though not always needed during the course of typhoid fever, are always advantageous during convalescence. A celebrated London physician stated that if he were treated for typhoid fever he would not like to be treated at a temperance hospital. Convalescence will be hastened, I am sure, by a moderate amount of stimulants, and they are relished by the patients. I don't believe in giving sick people dainties; they don't appreciate it. In the line of stimulants, plain whisky is good enough for them.

Obstinate Catarrh Followed by Local Paralysis.—Here is a young patient who first applied at the laryngological department. The doctor sent her to us on account of certain signs which are seen in bulbar paralysis, which she thought might be indicative of that condition. I do not think it is so. The history of the case is different, her age and other facts militate against the view. She is about 25 years of age. About May 15 she had a severe cold, and her voice became weak. With medical treatment for four weeks she became better. She remained well for six weeks, then took another cold, when she had hoarseness and difficulty in swallowing. There was paralysis of the velum and the food returned through the nose. She returned to the physician. She can swallow better than she did. There was discovered to be a paralysis of the right vocal cord as well as of the right side of the velum. A striking symptom is a tumor of the uvula. The nerves involved are two which take origin in the floor of the fourth ventricle, in the region affected in bulbar paralysis, the glosso-pharyngeal and spinal-accessory being involved here.

The heart is all right; there are no signs of tumor in the chest, and if there were it would only account for the spinal accessory and not for the glosso-pharyngeal.

Why do we think this is not bulbar-paralysis? On account of the age. A few supposed cases have been reported as early as this, but they are not well authenticated; they are questioned by neurologists, and we must not take them into account. Besides the youth, another reason is that bulbar paralysis is invariably bilateral, the nuclei on both sides are affected. This is unilateral. Then again it almost invariably begins in the order of tongue, then lips, throat and larynx. The order has not been observed here; the tongue is not affected, there is no trouble in articulation.

It is scarcely necessary to say that there is a neurosis. a pseudo-bulbar paralysis. In this the disease is simulated very closely; it is bilateral. Symptoms like these might be due to thrombosis or embolism in one side of the medulla. But in that case the heart would be involved. I believe the trouble here is purely a local one due to the obstinate inflammation she has had. The case was not one of diphtheria. I believe the paralysis is peripheral. Why has it appeared on the one side more than on the other? Probably because the inflammation was greater on one side. You might ask why the condition is not more frequent. This was an obstinate catarrh. If all the throats of persons who have suffered from catarrh were examined we might find this condition much more often.

The doctor believes the patient is better, and will probably get better still under the use of tonics and the local application of electricity.

"The Man with the Musical Heart."—This is a man who is trying to make his living by exhibiting himself as a remarkable example of cardiac disease. "Ed Lewis, The Man with the Musical Heart." He came to me some weeks ago and told me he was going around exhibiting himself. He has quite a newspaper notoriety. He has with him an account of his condition which may be accurate and may be not. It is said here that by accurate measurement by means of the X-rays, his heart is eleven by nine inches in length and breadth, and of proportionate thickness. Whether the X-rays may map out the heart so accurately is a question, but if they can map out an aneurism this may be quite possible. It says the heart makes a "weird melody." You can hardly speak of one tone as being a melody, but it makes a noise which is certainly musical. It is systolic and can be heard all over the heart, but with great intensity over the xiphoid cartilage a little to the left.

It seems unlikely to be due to valvular disease, for it is traumatic in origin, making its appearance after an injury.

The fellow is a Russian, not thirty-five years in age. He was banished to Siberia, and in effecting his escape he was stabbed over the heart. At St. Luke's Hospital in 1894 the irregular nature of the heart tones was discovered during a serious illness, when he was supposed to be in a dying condition. His heart has been constantly growing larger and thumping away all the time. You can see the cicatrix where he was stabbed. The apex beat is outside of the nipple line and perhaps two and a half inches below. The murmur is systolic, prolonged, and of almost uniform intensity. It is somewhat different from the musical murmurs which, according to most writers are commonly found with aortic regurgitation. I have not found it so. I have seen at Philadelphia Hospital a great many instances of that affection, and in some cases the musical murmur. But the most of them, as this is, were with the systolic sound. This is heard loudest at the apex—screaming, you might say. You can hear it an inch or more from the chest.

—Rush Medical College in Chicago is to have a new $80,000 building, for which Dr. Nicholas Senn has just given $50,000. tI will be used principally for clerical purposes, and will be named Senn Hall.

The Medical Times.

A MONTHLY JOURNAL

OF

Medicine, Surgery, and Collateral Sciences.

EDITORS:

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Communications should be addressed to the MEDICAL TIMES, 180 West Fifty-ninth Street, Central Park South.
Published on the first of each month.

Changes of standing advertisements and communications in regard to that department, should be addressed to the Advertising Manager, BENJ. LILLARD, 108 Fulton St., New York.

NEW YORK, JULY, 1901.

"God has a definite life-place for every man; one that being accepted and followed, will conduct him to the best and noblest end possible."

—HORACE BUSHNELL.

LIGHT AND ITS RAYS IN MEDICINE.

SEVERAL years ago Dr. Pancost published an exceedingly interesting work, in which he claimed that light is the original and sole source of life, as it is the source of all the physical and vital forces of Nature, and that, therefore, light is Nature's only remedy for disease. Other writers have followed in his steps in works more or less learned, with suggestions here and there of great practical value, until at the present time one college and perhaps more exist granting a degree for the relief of every class of disease in which the colored rays of white light are separated and utilized in the treatment of the various diseases for which each ray is supposed to have a specific action. Nature works under one law, that of compensation and equilibrium, and when disease indicates the disturbance of the law she seeks to banish disease by restoring equilibrium, and if light is the only means she employs in all her operations in vegetable life she should render assistance here also on the same plan, and by a similar action. But light is not the only means Nature employs in its vitalizing work, even if it is, as it is claimed by scientists, the source of electricity and electricity its manifestation. There are other factors, heat and nutrition, which must not be forgotten, either in the animal or vegetable world.

There is no doubt a careful study of the luminous vibrations of white light, either separately or as a whole, of which there are seven colors visible, violet, indigo, blue, green, yellow, orange and red, would be of inestimable value in the treatment of disease. Beyond violet and below red physicists are ever discovering new radiations of various wave lengths, which are too short or too long to be perceived by the naked eye, but which otherwise reveal very marked physical and chemical properties. The radiations below red are called calorific, because of their action manifested chiefly in a raising of temperature; those above violet are said to be chemical, on account of the chemical effect they produce. It is known that the solar light owes its health-giving property to the action of those chemical radiations, so destructive to the microbe. From these facts the idea occurred to Professor Finsen, of Copenhagen, that the application of appropriate rays might diminish the irritation of the skin in certain eruptive diseases, especially if the irritation had gone so far as to produce suppuration. This idea originated his treatment of smallpox by the red light. In this disease the patient is confined in a room from which all chemical rays are excluded, the only light being admitted to the room through heavy red curtains, or window-panes of the same color. The same method has been applied to measles, as well as a whole series of chronic skin diseases, with beneficial results. In these diseases only the calorific radiations are allowed to come in contact with the skin, while the exciting and disturbing action of the chemical rays are entirely suppressed, reducing the inflammatory action of the eruption to a minimum.

To concentrate the solar rays Professor Finsen uses hollow lenses filled with water that has been colored by means of a copper ammoniac solution. This water filters the light, absorbs the calorific rays and lets penetrate only those chemical rays which are required for a therapeutic purpose.

Admitting as we must the beneficial results which will ensue in this line of investigation, the careful study of the action and radiations of white light in the effect produced on animal and vegetable life, and the possibilities which future researches may develop, have we now sufficient evidence of its vitalizing power to meet every condition and form of itself not only the corner-stone but the whole structure of a complete system for the correction of every violation of Nature's laws, so far as the human economy is concerned, and the meeting of every emergency in the treatment of disease?

For more than a quarter of a century the MEDICAL TIMES has sounded the key-note of that new school of medicine, the outgrowth of scientific research and independent thought which the ever advancing spirit of the age rendered absolutely certain in the not distant future. It is with a feeling of gratification we have no words to express, now in the commencement of the twentieth century, to hear the clear strong vibrations of that note echoing through the world, sounding from the camp of the American Medical Association, by its president. Verily, when that association proclaims that the "new school acknowledges no distinctive title, and heralds no Shiboleth, but is a school of human tolerance, of personal independence and scientific honesty," we are assured the millennium is very near at hand—and is most welcome.

COMMON SENSE.

IF a little more common sense were infused into some of our great reformatory movements, looking to the highest good, which have already accomplished so much, the progress would be more rapid and the results much more satisfactory. It will be remembered, at a recent date, through the efforts of the Women's Christian Temperance Union, whose efforts in legitimate lines have been crowned with abundant success, the soldiers' canteen was abolished by act of Congress. An immense wave of emotional sentiment, sweeping away the practical common sense of our legislators, was followed by the inevitable logical results of their action, which was clearly pointed out by the medical press while the measure was under discussion.

Major Lewis Seaman, late Surgeon U. S. V. Engineers, whose recent contributions to medical literature on food and sanitation in the army have been most valuable, at the last meeting of military surgeons read a paper in which he showed, by a statement of facts, the short-sighted policy of doing away with the canteen and the bad results of its action upon the soldiers.

The liquor furnished by the canteen was pure, while that obtained at the saloons was often of the vilest quality, acting like rank poison.

At Paniqui, in the Philippines, during February and March, 1900, there were between seventy and ninety trials by court-martial each month; four-fifths of the offenses were intoxication from native vino.

A canteen was established in the latter part of March. Since then, until February, 1901, there were never more than twenty trials a month. Major Seaman strongly advocates the reëstablishment of the canteen, and says: "When the canteen was maintained the soldiers drank less, were under better influences, and returned sober and contented to their library, reading-rooms or quarters.

"When the misguided enthusiasts of the Woman's Christian Temperance Union stop to reflect that the result of their influence in inducing Congress to abolish the canteen has produced an enormous increase of wretchedness in the army hospitals, and made many a husband, father and lover the victim of degradation, they may indulge in less self-congratulation and conclude to cease interfering with regulations about which they are helplessly ignorant.

"The canteen was the most rational compromise that the ripe experience of the ablest officers in the army could devise."

In this connection we might refer to the lack of common sense in very much of the legislation in reference to prostitution. In large cities no act of legislation, however stringent or severe, can abolish the vice, while the stimulants to human passion remain as they are. We must take society as it is, and, while we throw around it all the protection which practical laws can devise and which can be carried out in their integrity, realize the fact that the vice exists and must exist until the pulpit, press, family circle, our educational institutions, develop a higher sense of the harmony and purity of civil and social life.

JOHNS HOPKINS UNIVERSITY.

THE recent appointment of Dr. Ira Remsen, Professor of Chemistry in the Johns Hopkins University, to the presidency of the institution in the place of Dr. Gilman, resigned, speaks well for the future of one of the most scientific institutions in this country. Dr. Remsen is recognized as the leading chemist in the world, and has been connected with the university for many years, and during the occasional absence of Dr. Gilman acting president. Dr. Remsen is a native of this city, and, notwithstanding he graduated at both the homeopathic and old school colleges of medicine he has never engaged in the active practice of the profession, but has devoted his life to chemistry and its kindred sciences. As Assistant Professor of Chemistry at Heidelberg, Dr. Remsen won high rank in the scientific world, and was called to the chair of chemistry in Williams College, which, after a few years, he resigned to take a similar position in the Johns Hopkins University.

The university is fortunate in having at its head a scientist with the reputation of Dr. Remsen as a teacher and administrator.

TO DETECT THE ORIGIN OF BLOOD-STAINS.

RECENT investigations have proved that when cells of an ascertained nature, such as leucocytes or red blood-globules, are introduced into an animal organism, the serum of that animal acquires the property of destroying them; that is, it becames—in the case, for instance, of red blood-globules—*hemolytic*. This dissolving power is specific, and, hence, M. Ladislas Deutsch, of Budapest, in a communication to the Thirteenth International Medical Congress, proposes to employ it for the differential diagnosis of blood stains. This has hitherto been one of the most difficult problems in legal medicine. The hematin of mammalia and that of birds are readily distinguished from each other, but the very slight differences in size between the red blood-globules of different species of mammalia are insufficient to identify them. The discovery of the hemolytic serums, however, has completely removed this difficulty. It is now only necessary, after separating the suspected blood, to dilute it with a watery solution of common salt (9-1,000), and then to test it with different hemolytic serums in succession. The serum which most quickly (in a few minutes) dissolves the hematin, indicates, with absolute certainty, from what species it was derived. Thus, supposing that, according to the accused person, the stains in question came from a sheep, we have only to determine whether or not the hemolytic serum of the sheep will dissolve them. If it will, the diagnosis is established; if it will not, the trial is continued by mix-

ing some more of the diluted blood with hemolytic serum from a man, which is easily obtained by immunizing a laboratory-animal, as a rabbit or guinea-pig, against human hematin. If this serum speedily dissolves the hematin of the stain, the human origin of the latter is clearly shown. Thus it is evident that the examiner has merely to keep on hand the hemolytic serums of some ten or twelve of the more familiar animals (dog, cat, ox, sheep, goat, horse, or rabbit), in order to settle, without much trouble, any question that can arise respecting the origin of blood-stains.

SCIENCE VERSUS LAW.

A SOMEWHAT annoying specimen of law, elbowing science off the track, and issuing edicts as regards the public health, which should, to be of any practical use, be based upon the most careful scientific investigation, comes to us in the recent order from the Emigration Bureau of Washington to Commissioner Fitche, of Ellis Island, where the emigrants to this port are landed. The order states that "Consumption is a dangerous contagious disease," and to prevent the spread of tuberculosis in the United States all aliens affected with the disease, whether they come by cabin or steerage, must be refused admission into the country. The law is oppressive, unwise, and, if carried into effect, would require a corps of the ablest specialists in the country to perfect the diagnosis. It would lead to endless trouble and entirely fail of accomplishing the purpose intended, that of preventing the spread of tuberculosis. The provisions of the law before this edict were quite sufficient to give all the protection to our citizens needed. The order seems to place tuberculosis on the same list as yellow fever, cholera or bubonic plague, but its germs reach the system in an entirely different way and through another channel. They are in the atmosphere everywhere. We are constantly exposed, and those who have not sufficient vital force to resist the tubercular germs may fall victims to them, but they seldom if ever take root in the well-developed, healthy physical system. The best prevention is healthy living, in food, drink, sanitation, and all the habits of life.

MEDICAL LEGISLATION.

A MAJORITY of the bills introduced into the last Legislature of this State, relating to the public health, fail to become laws. The chief amendment to the public health law was the creating of a new department of health under a single commission, which is a very great improvement. The insanity law was amended, providing that the State Commissioner in Lunacy shall have had ten years' experience in the practice of his profession, and five in the treatment of mental and nervous diseases, or two in the treatment of the committed insane. A few appropriations were made for special work, and a balance of the bills served only as matters of discussion, prolonging the session and thereby slightly increasing our taxes.

A JUST CONVICTION.

THE first case on record in this vicinity where a faith cure advocate has been convicted was in the county court at White Plains, when J. Luther Pierson was found guilty of allowing his two-year-old daughter to die while he was praying for her health, instead of calling in a physician. Pierson was indicted by the grand jury for the crime, as specified in the indictment, of wilfully, maliciously and unlawfully violating the provisions of Sub-Division 1 of Section 288 of the Penal Code, by omitting, without lawful excuse, to perform a duty imposed upon him by the law, that of failing to call a doctor to attend his two-year-old daughter, who was suffering from catarrhal pneumonia, or even give her medicine. Pierson believed faith could cure his child, but she died despite the prayers of the Scientists for the return of her health.

The jury was only out thirty minutes when the following verdict was brought in: "We find the defendant guilty as charged in the indictment, with recommendation of mercy from the court." The crime that it is charged Pierson committed is classified as a misdemeanor, and is punishable by imprisonment of one year in the penitentiary or a fine of $50, or both.

If prosecutions of this nature should become frequent, it would have a tendency to stop this sinful practice.

AMERICAN THERAPEUTIC SOCIETY.

THE second annual meeting of this useful society was recently held in Washington, with a good attendance.

In the absence of Professor H. C. Wood, Dr. Reynold W. Wilcox, of this city, occupied the chair, and was elected president for the ensuing year.

In an interesting address* reviewing the therapeutic progress retrospectively, Dr. Wilcox pertinently remarks that "the therapeutic nihilism resulting from the despair of the dead-house had largely passed away."

Dr. Wilcox then proceeded to refer to the attention which had been devoted recently to internal antisepsis, speaking more or less favorably of the use of chlorine in enteric fever, guaiacol or creosote (particularly as organic salts) in pulmonary tuberculosis, naphthol in various conditions found in the alimentary canal, and various organic bismuth salts in the treatment of the same conditions. As samples of general internal antiseptics he mentioned chlorine, soluble silver, the salicylates and quinine. The conclusion at which he arrived was that, as a result of the labors of Lister and countless followers, the ideal in regard to internal antisepsis had been nearly attained. Internal antisepsis now rested on quite as secure a basis as did the surgical when the pioneers began their work, and the ensuing three decades (it was thirty years since this work was begun) would doubtless bring to fruition their most daring hopes. As the surgeon gave credit to Lister, so must the therapeutists acknowledge their indebtedness to Bouchard for many of their

* *Medical News*, May 25, 1901.

facts, trusting that others would continue the work that he so painstakingly had begun. At this time they could safely say that internal antisepsis was more than the dream of the theorist. Internal antisepsis, it was possible, might be useless or detrimental, under certain conditions, or might be absolutely contraindicated because of the patient. How best to attain it was a question to which the answer would vary with each succeeding year as their knowledge of infectious diseases and the best way of combating them rested upon a broader and more secure foundation.

Sodium cacodylate, Dr. Wilcox went on to say, had probably attracted more attention than any one other remedy. It could apparently be safely introduced into the body in much larger doses than its arsenic content would lead them to suppose, and could even be administered subcutaneously, although there was considerable dispute as to the agreeableness of this method of administration. It had received favorable commendation in the treatment of tuberculosis, anemia, and other diseases and conditions. Adonidin had been favorably reported upon by one observer, who said that it could be safely administered in certain circumstances when digitalis, if used at all, ought only to be used with the greatest caution.

After speaking of other remedies, Dr. Wilcox condemned the use of carbolic-acid solutions as moist dressings, and said that carbolic acid in any strength should be included in the list of those drugs which could only be procured by the prescription of a physician. When alcohol was used as an antidote to carbolic acid, it should not be forgotten that promptness of action was of the utmost importance. Since sixty grains of carbolic acid almost always proved fatal, and the drug could be easily obtained, a knowledge of the antidotal power of alcohol should be disseminated as widely as possible among the people.

The discussion which followed, upon various phases of the therapeutic subject, were intensely interesting and instructive, and if space would allow we should be glad to repeat here.

Our experience in regard to hypnotism agrees with that of Dr. Wilcox, that patients thus treated show symptoms of vitiated will-power.

The therapeutics of heart disease was discussed by Dr. Thomas E. Satterthwaite, summed up as follows: The idea of complete rest had been supplanted by rest, alternating with bodily activity; venesection by determination of blood to the surface through resistant exercises and carbonated baths; hydrogogue cathartics had been replaced by stomachics and mild alteratives and diuretics; heart stimulants by general nerve stimulants, or sedatives, alteratives and nutrients; while drugs of the digitalis group were utilized chiefly for their diuretic action in renal complications, mainly parenchymatous, nephritis or abdominal dropsy. Drugs of the digitalis group, including strophanthus, convallaria and adonis, were always uncertain and, therefore, dangerous, and should only be employed either when other remedies were inadmissible, or in kidney or liver complications for brief periods, or where nothing more was possible than a brief prolongation of life.

We are pleased to note that the meeting next year will be held in this city.

THE ENZYMES.

THE term enzyme has been given to the unorganized or chemical compounds of vegetable or animal origin which cause fermentation, as pepsin or rennet.

The enzymes have rightly been called soluble ferments, but what they are and how this work is accomplished is an enigma which has never been fully solved, notwithstanding the vast amount of study which has been bestowed upon them.

Professor Kestle, of the Texas Academy of Science, expresses the idea that they are the residuum of the vital force of the living cell. It is demonstrated that they are albumenous and contain phosphorus, and probably iron, in addition to carbon, hydrogen, oxygen and nitrogen, and occur in every living animal or vegetable cell.

Without undergoing any chemical change themselves, they seem to have the power of breaking down complex chemical substances to an extraordinary extent.

Thus far over fifty varieties of enzymes have been named, some of them of great physiological importance, such as pepsin, found in the gastric juice; ptyalin, found in the saliva, and trypsin, found in the pancreatic secretions. Trypsin occurs not only in the digestive fluid of the intestines, but is found also in the pine-apple, as pepsin, found in the stomach, is also obtained from the papaya, and, as papoid or vegetable pepsin, is used in indigestion with even greater benefit than the pepsin. Wherever the enzyme is found, either in the vegetable or animal world, its action upon complex chemical substances seems to be the same, and is one of the principal elements of what is called digestion.

Professor Harper, in a paper read before the Cincinnati section of the American Chemical Society, advances the theory that the enzyme action is to be accounted for, not by the chemical interaction of molecule with molecule, but by the molecular vibration of the enzyme molecule itself. If we grant the existence of molecules we must grant the existence of molecular vibration, and from this the existence of ether waves spreading out from these vibrating molecules. If these ether vibrations correspond in period with the vibrations of the molecules of the fermentable substances, then fermentation ensues by sympathetic vibration, and, of course, the enzyme is not destroyed in the process.

According to this theory, and we must remember it is a theory only, the enzyme action is not due to the enzyme substance, but to the energy radiating from the substance, and it is therefore comparable to light or electricity.

INSTITUTION FOR MEDICAL RESEARCH.

AN institution for medical research has recently been incorporated in this city, akin somewhat to the Psycho-Physiological Laboratory at 1 Madison Square, under the direction of the Commissioner of Lunacy, but covering a broader field, to which Mr. John D. Rockefeller has already contributed $200,000. The plan involves later the establishment of a permanent home in this city, in a thoroughly appointed building, with the carrying out of the most extensive line of medical research ever contemplated, with an ample endowment to meet every contingency. At present the work will be of a character which can be performed in laboratories already in working order, not requiring a special plant, but money will be forthcoming in abundance at a later day, not only for the erection of buildings, but also for endowments. Notwithstanding the home of the institute will be in this city, yet the work will be carried on under the guidance of experienced investigators in a number of the foremost medical schools in the country, including Harvard, Columbia, Chicago, Yale, Michigan, Pennsylvania, Johns Hopkins, and McGill University. This, however, will be under the auspices and assistance of the board of the Rockefeller Institute, who will have supervision over the work, which will be performed by scientists whom they will employ and who will work more or less independently in the different places mentioned. The officers and directors of the institution, as far as they have been appointed, are as follows:

President, Dr. W. H. Welch, Professor of Pathology at Johns Hopkins University.

Vice-President, Dr. T. Mitchell Prudden, Professor of Pathology at Columbia.

Secretary, Dr. J. E. Holt, Clinical Professor of Diseases of Children at Columbia University.

Treasurer, Dr. C. A. Herter, Professor of Pathological Chemistry at the New York University and Bellevue Medical College.

In addition to these the Board of Directors consists of Dr. Theobold Smith, Professor of Comparative Pathology at Harvard; Dr. H. M. Biggs, Director of Laboratories, New York Board of Health, and Dr. Simon Flexner, Professor of Pathology, University of Pennsylvania.

Original investigation is often so expensive that, especially in this country, the limited funds of scientists are a great drawback to lines of investigation which would be likely to lead to the richest results. In the establishment of this institution, with ample funds always at command, there is no telling what advances may be made in every department of science which may have a practical bearing upon the prevention and treatment of disease.

—Dr. J. Neely Rhoads states in *American Medicine*, that he has succeeded in completely removing, within two days, powder stains from the face, due to firecrackers, by means of the application of hydrogen peroxide.

THE ST. PAUL MEETING.

THE recent meeting of the American Medical Association at St. Paul is said to have been well attended, and the friends of progressive medicine as well as modern ethics seem to be well satisfied with the result.

As large bodies move slowly, it was not to be expected that any startling developments would come at this time, but those who are in a position to know state that there was an increased evidence of liberalism toward those who are without the fold, and a desire for the unification of the profession, especially in this State. The selection of a president and the place of its next meeting augurs well, perhaps, for more cordial relations between our State Society and the National Association, but nothing can possibly be done of consequence unless one of these bodies rescinds the code which is objectionable to the other, and so far as we can now see that is not likely to be done.

That the two State organizations are likely to be consolidated is not at all probable; the only thing that can be done is the abolition of the State Association; the State Society, being a part of the organic law, cannot consider such a proposition.

There was never any occasion for organizing the State Association, and the sooner it becomes defunct the better for the profession interested.

The breach between code and no code is a wide one, and unless we are very much mistaken will not be easily bridged over.

President Reed's address was of a high order, reviewing the affairs of the association in a masterly manner, concluding as follows:

"The changes which I have advocated are essential for the attainment of the purposes of the Association and for the fulfilment of the high destiny of our national profession. They are demanded by the changes that have taken place during the last fifty years. The legislative functions have passed from voluntary organizations to the Congress and the Legislatures, where they belong; but it still devolves upon the profession in the organized capacity, to stimulate, to restrain, or otherwise to control the law-making power. The responsibility of the profession is increased, rather than diminished. Science has come to have a clearer meaning. He who now proclaims a dogma cries alone in the night, while the world sleeps. They who demand a creed may read its varying terms only in the progressive revelation of natural laws. Practice has changed. The depletions, the gross medications, the absurd attenuations, the ridiculous antimineralism, have given way to a refined pharmacy and to a more rational therapy. Sacrificial surgery has yielded to the spirit of conservatism. Prevention is given precedence over cure. Education implies research and discovery, and all may delve. I proclaim, events proclaim, the existence of a new school of medicine. It is as distinct from the schools of fifty years ago as is the Christian dispensation from its Pagan antecedents. It is the product of convergent influences,

of diverse antecedent origin. It acknowledges no distinctive title, it heralds no Shibboleth. It is a school of human tolerance, of personal independence, of scientific honesty. It is the slave of neither prejudice nor preconception, and abandons the accepted truth of yesterday, if it only be the demonstrated error of to-day. It places no premium upon personal prerogative, and extends no recognition to individual authority. It makes no proclamation of completeness, no pretention to sufficiency. It recognizes that truth is undergoing progressive revelation, not ending to-day, but continuing through the ages. It yields its plaudits to achievement, and recognizes that he is the greatest among men who reveals the most of truth unto men. It greets as a friend him who thinks, though he think error, for, thinking, he may think truth and thereby add to the common fund. It heeds all things, examines all things, judges all things."

The new plan of government is intended to do away with sectional politics by its representative character, the legislative work being accomplished by 150 delegates elected for that purpose by the respective State organizations.

We ought to say, in justice to President Reed, that his treatment of the code question is not only an ingenious presentation of facts, but is the strongest possible argument for the abrogation of the code altogether.

On the whole, the meeting can be voted a success generally.

AMERICAN INSTITUTE OF HOMEOPATHY.

THE fifty-seventh annual meeting of the American Institute of Homeopathy, the oldest national medical society in the United States, was held at Richfield Springs, June 17th-19th, Dr. Norton, of New York, in the chair.

The meeting was well attended, about 275 physicians being present, representing nearly every State in the Union, and, from a social standpoint, a very marked success. Viewed as a gathering of scientists representing the rank and file of a great school of medicine, it could be ranked with the other great national societies, in which many able papers are presented, most of which are incorporated, in whole or in part, in the annual volumes of "Transactions," but nothing of sufficient importance to warrant special journalistic mention. As an evidence of the prosperity of the society, 150 new members were elected. Dr. J. C. Wood, of Cleveland, was elected president. The place of the next meeting was left to the Executive Committee to be arranged later.

—Alcohol in proper dilution is a very efficient disinfectant, its disinfecting properties depending partly upon its desiccating action and partly upon a distinct toxic influence upon the bacteria. In efficiency it may be classed between corrosive sublimate and carbolic acid. The best solution for the disinfection of the hands is slightly acidulated 80 per cent. alcohol.

BIBLIOGRAPHICAL.

THE ACUTE CONTAGIOUS DISEASES OF CHILDHOOD. By Marcus P. Hatfield, A.M., M.D., Professor Emeritus of Diseases of Children, Northwestern University Medical School; Professor of Diseases of Children, Chicago Clinical School; Attending Physician, Wesley Hospital. Pages, 142. Price, $1.00 net. G. P. Engelhard & Co., Chicago, 1901.

The author has accomplished his little work succinctly and clearly, so that it will be a help to those who read it. It is distinctly up to date, including the latest views of the French and German. It will prove a handy book to have at the elbow.

WHITMAN'S ORTHOPEDIC SURGERY. For students, practitioners and specialists. By Royal Whitman, M.D., Adjunct Professor of Orthopedic Surgery, New York Polyclinic; Instructor in Orthopedic Surgery in the College of Physicians and Surgeons, and Chief of Orthopedic Department in the Vanderbilt Clinic, New York. In one handsome octavo volume of 642 pages, with 447 illustrations. Cloth, $5.50 net. Lea Brothers & Co., publishers, Philadelphia and New York, 1901.

The position and experience of the author has enabled him to produce a volume of great breadth upon a subject of wide general interest.

The subject has been presented in a manner which long experience has demonstrated to be the best for students as well as practitioners, outlining methods of examination, explaining symptoms, and so illustrating causes and results as to indicate in natural sequence the best treatment, which is then explained in complete detail with excellent illustrations. Only approved methods of treatment which have stood the test of successful practice are recommended.

A noteworthy feature of the volume is its rich series of illustrations, numbering no fewer than 447, nearly all of which are from original photographs of actual cases in the several hospitals with which the author is connected.

The diseases of which this work so ably treats almost invariably come first to the attention of the family physician, who will find in this volume a clear and trustworthy guide to the fulfilment of one of his most important responsibilities.

A TEXT-BOOK OF THE PRACTICE OF MEDICINE. By Dr. Herman Eichhorst, Professor of Special Pathology and Therapeutics, and Director of the Medical Clinic in the University of Zurich. Translated and edited by Augustus A. Eshner, M.D., Professor of Clinical Medicine in the Philadelphia Polyclinic. Two octavo volumes of over 600 pages each; over 150 illustrations. Philadelphia and London: W. B. Saunders & Co., 1901. Price per set, cloth, $6.00 net.

The Germans lead the world in internal medicine, and among all German clinicians no name is more renowned than that of the author of this work. Dr. Eichhorst stands to-day among the most eminent authorities of the world, and his "Text-Book of the Practice of Medicine" is probably the most valuable work of its size on the subject. The book is a new one, but on its publication it sprang into immediate popularity, and is now one of the leading text-books in Germany. It is practically a con-

densed edition of the author's great work on "Special Pathology and Therapeutics," and it forms not only an ideal text-book for students, but a practical guide of unusual value to the practising physician. As the essential aim of the physician will always be the cure of disease, the fullest and most careful consideration has been given to treatment.

POCKET MANUAL OF HOMEOPATHIC MATERIA MEDICA. Comprising the characteristic and cardinal symptoms of all remedies. By William Boericke, M.D., Professor of Materia Medica and Therapeutics at the Hahnemann Hospital College of San Francisco. Printed on finest Bible paper, bound in flexible leather, 572 pages. Price, $3.00. A limited number of interleaved copies, with wide margins, $5.00.

Boericke's "Materia Medica" is a pocket edition of the whole materia medica, containing almost every remedy of which we have any positive knowledge, including all the nosodes, like bacilinum, medorrhinum, etc., and all new remedies.

It includes the non-homeopathic uses and doses of drugs that every physician must at times avail himself of, such as strychnine, atrophin, dubois., physostog., etc. Boericke & Runyon Co.

ATLAS AND EPITOME OF THE NERVOUS SYSTEM AND ITS DISEASES. By Prof. Dr. Charles Jakob, of Erlangen. From the second revised German edition. Edited by Edward D. Fisher, M.D., Professor of Diseases of the Nervous System, University and Bellevue Medical College, New York. With eighty-three plates and copious text. Philadelphia and London: W. B. Saunders & Co., 1901. Cloth, $3.50 net.

In this atlas the author has portrayed an instructive section of medicine which is usually extremely difficult of mastery by students and practitioners. This work will be of great value to the physician. The matter is divided into Anatomy, Pathology, and Description of Diseases of the Nervous System. The plates illustrate these divisions most completely. There is probably no work in existence in which so much is compressed within so small a space. The book is comprehensive and practical.

THE FEEDING OF INFANTS. Home Guide for Modifying Milk. By Joseph E. Winters, M.D., Professor of Diseases of Children, Cornell University. E. P. Dutton & Co.

Dr. Winters is recognized as a leading specialist on children's diseases in this country, making his experience in the feeding of children of special value. Modification of milk and the feeding of infants is placed on a scientific basis, and the directions so clearly given as to be clearly understood by nurse or mother.

CLINICAL PATHOLOGY OF THE BLOOD. A Treatise on the General Principles and Special Application of Hematology. By James Ewing, A.M., M.D. Illustrated with thirty engravings and fourteen colored plates, drawn by the author. Lea Brothers & Co., 1901.

Within the last ten years there have been rapid and most important advances in the study of the pathology of the blood, obtained from the revelations of the autopsy table, and microscopic examinations of diseased tissue. Much of this information has been scattered through essays in medical journals, and to a limited extent in text-books and treatises on hematology. The present volume aims to associate changes of the blood as closely as possible with lesions in the viscera, without which combination the former are very often unintelligible, and, in doing this, to bring together in a condensed and intelligent form the scattered facts brought out by previous investigations. The work is scholarly, logical, and its contents strictly scientific.

A MANUAL OF DISEASES OF THE NOSE AND THROAT. By Cornelius Godfrey Coakeley, A.M., M.D. Second edition, revised and enlarged; illustrated with 100 engravings and four colored plates. Price. $2.75. Lea Brothers & Co., 1901.

Dr. Coakeley's large experience as Professor of Laryngology in the University and Bellevue Hospital Medical College, and his noted skill as a teacher, have enabled him to cover every phase of the subject without a waste of words in the discussion of unimportant subjects. The directions for examination and making a diagnosis are unusually clear and explicit. In treatment the author has selected from among the multiplicty of medicinal and operative measures those which in his judgment are the best, and full details are given for the benefit of those who have not had the advantage of personal clinical instructions. A special chapter, devoted to therapeutics, gives a classification of drugs according to their local action, and a number of useful prescriptions with indication for their employment. Both the specialist and general practitioner will find the work of great value for ready consultations.

ATLAS AND EPITOME OF OBSTETRIC DIAGNOSIS AND TREATMENT. By Dr. O. Shaeffer, of Heidelberg. From the second revised German edition. Edited by J. Clifton Edgar, M.D., Professor of Obstetrics and Clinical Midwifery, Cornell University Medical School. With 122 colored figures on 56 plates, 38 other illustrations, and 317 pages of text. Philadelphia and London: W. B. Saunders & Co., 1901. Cloth, $3.00 net.

This book treats particularly of obstetric operations and besides the wealth of beautiful lithographic illustrations, contains an extensive text of great value. The symptomatology and diagnosis are discussed with all necessary fulness, and the indications for treatment are definite and complete. In this new edition both text and illustrations have been subjected to a thorough revision. Most of the colored plates are new, and illustrate the modern improvements in technique, as well as a vast amount of new clinical material.

ATLAS AND EPITOME OF OPHTHALMOSCOPY AND OPHTHALMOSCOPIC DIAGNOSIS. By Prof. Dr. O. Haab, Director of the Eye Clinic in Zurich. From the third revised and enlarged German edition. Edited by George E. de Schweinitz, Professor of Ophthalmology, Jefferson Medical College, Philadelphia. With 152 colored lithographic illustrations and 85 pages of text. Philadelphia and London: W. B. Saunders & Co., 1901. Price, $3.00 net.

The great value of Prof. Haab's "Atlas of Ophthalmoscopy and Ophthalmoscopic Diagnosis" has been fully established, and entirely justifies an English translation of his latest edition. Not only is the student made acquainted with carefully prepared ophthalmoscopic drawings done into well-executed lithographs of the most important founders' changes, but in many instances, plates of the microscopic lesions are added. The whole furnishes a manual of the greatest possible service, not only to the beginner in ophthalmic work, but

to one who has already far advanced, and desires to compare the observations of his own service with those of the rich clinic, from which Prof. Haab has gathered his plates.

ATLAS AND EPITOME OF LABOR AND OPERATIVE OBSTETRICS. By Dr. O. Shaeffer, of Heidelberg. From the fifth revised German edition. Edited by J. Clifton Edgar, M.D., Professor of Obstetrics and Clinical Midwifery, Cornell University Medical School. With 14 lithographic plates, in colors, and 139 other illustrations. Philadelphia and London: W. B. Saunders & Co., 1901. Cloth, $2.00 net.

There is no branch of medicine or surgery that is so difficult to demonstrate as that of midwifery; hence any positive aid, such as this atlas furnishes, is to be hailed with satisfaction. The author has added to the multitude of obstetric subjects already shown by illustration, many accurate representations of manipulations and conditions never before clearly shown. As a guide in the perusal of text-books, and as a volume of ready reference, this book will prove invaluable.

A SYLLABUS OF NEW REMEDIES AND THERAPEUTIC MEASURES. With Chemistry, Physical Appearance and Therapeutic Application. By J. W. Wainwright, M.D., Member of the American Medical Association; New York State Medical Association, United States Pharmacopœial Convention, 1900; American Chemical Society, etc. Pages, 229. Price, $1.00 net. G. P. Engelhard & Co., Chicago, 1901.

The author gives, in a concise and practical manner, what he could gather from the sources at his command, in respect to what are called synthetic remedies, and some other therapeutic measures, such as cold, heat, serumtherapy, etc. It will be found convenient by those who use the newer remedies, such as acetanilid and others of this class, of which there is little written in ordinary text-books.

It will be found worth many times its cost to the therapeutist who desires to keep abreast the times.

ESSENTIALS OF THE DISEASES OF CHILDREN. By William M. Powell, M.D. Third edition. Thoroughly revised by Alfred Hand, Jr., M.D., Dispensary Physician and Pathologist to the Children's Hospital, Philadelphia. 12mo., 259 pages. Philadelphia and London: W. B. Saunders & Co. Price, $1.00 net.

In this revised edition numerous additions and changes have been made in the book, so that it continues to represent the present state of pediatrics. The book aims to furnish material with which students may lay the foundation for the successful practice of medicine among children. The section on infectious diseases has been rewritten, as well as many of the paragraphs on pathology. A number of new chapters have been added, among others, one on infant feeding.

OPERATIVE SURGERY. By Joseph D. Bryant, M.D., Professor of the Principles and Practice of Surgery, University and Bellevue Hospital Medical College. Vol. II., Operations on the mouth, nose and osophagus, the viscera connected with the perineum, the thorax and neck, scrotum and penis, and miscellaneous operations. This volume contains 827 illustrations, forty of which are colored. New York: D. Appleton & Co., 1901.

Dr. Bryant's reputation as a writer, teacher, and practical surgeon, standing among the first in his specialty for originality, thoroughness in diagnosing, and skill in operating, will be very much enhanced by the manner in which the various departments of surgery are presented in this volume. The style is lucid, the steps following each other so naturally as to present almost a living picture, as if the reader were watching the whole process of diagnosis, examination and operation on the surgical table. The engravings, for clearness and accuracy, are among the best we have ever seen, and, together with the typography, reflect great credit upon the publishers.

HOW TO COOK FOR THE SICK AND CONVALESCENT. Arranged for the physician, trained nurse and home use. By Huler V. Sachse. J. B. Lippincott & Co.

An admirable work, thoroughly practical and scientific.

FAVORITE PRESCRIPTIONS OF DISTINGUISHED PHYSICIANS. With Notes on Treatment. Edited by B. W. Palmer, A.M., M.D. E. B. Treat & Co.

The editor has placed before the profession for constant reference, in a condensed form, matter that could only be gleaned from careful study and association with the medical writers and teachers of the time.

CORRESPONDENCE.

MANUAL MANIPULATION.

Editor MEDICAL TIMES:

The introduction into our last Legislature of an act in reference to the practice of Christian Science and osteopathy, the discussion which followed before the committee and the failure of the act to receive legislative sanction, have prompted me to present to the profession through the columns of one of its leading journals, noted for its frankness and impartiality, a few points which seem to me pertinent to a proper understanding of the subject.

So-called Christian Science, as a system of healing, is lacking in certain conditions all the elements of scientific accuracy, and open to the charge of the worst kind of charlatanism.

And yet, both in their intelligent use in the hands of cultured minds understanding the physiology of the system and the pathological conditions into which it may be brought by disease, may be so utilized as to be productive of that relief which could be derived from no other source. Every physician believes in the power of mind over matter, and utilizes it to a certain extent in his professional work, but we have not yet reached that state of perfection when we can in all cases, or even in the majority of cases, bring to our aid spiritual or magnetic forces with such power as to say to the elements of disease, "Thus far, but no farther."

There comes a time when the remedial agents called from the limitless fields of science are absolutely necessary to relieve pain and save life, and he who fails to use them, professing to be a healer, is an enemy to society, and should receive the punishment demanded for its proper protection.

With massage and osteopathy we have to deal with material forces, removing obstructions through well-directed pressure and manipulation, changing and controlling to a certain extent those vibrations which open the avenues of vital force. Massage and osteopathy are the most widely known forms of manipulation. The former, as constituting a part of the Swedish-movement cure, has been utilized for many years by the profession

in certain conditions, with marked benefit, but has made no claim to a system for the general treatment of disease. It has its uses, which an intelligent profession recognizes and does not hesitate to avail itself of its benefits.

Osteopathy is not massage; its results are by different methods and the treatment but slight in comparison.

The osteopath claims that all functional action depends upon the bony framework of the body and the relation of all the other parts of the organism to it, and the correction of any deflection from the normal condition of the bones and the joints restores harmony and results in a cure. However scientific this treatment may be in certain conditions, it is very evident it has its limits, and when claimed to be a universal system for the treatment of every form of disease, acute and chronic, as well as functional, it becomes a dangerous element, from which society should be protected. And yet, this so-called system, with all its defects, has been legalized in several States, and is pressing hard for recognition in New York. Denying most emphatically the claim of the osteopath to a universal system of treatment, but admitting, as it seems to me we all must do, the importance and practical value of many of its ideas, I have coined the word Somatopathy as the meeting-ground of medicine and manipulation, embracing the best of all methods of manual treatment, as a specialty requiring minute study and diagnosis in a profession which includes within its range of studies all sciences, and seizes hold of every fact and every principle which it can utilize for the benefit of humanity. The result of my work in this new and somewhat original line has been so gratifying in the relief of cases of long standing, many of them deemed incurable, that it has prompted me to suggest to the profession that a more careful study of those lines of investigation outside of the therapeutics of the materia medica, which are now being incorporated in a series of volumes edited by Dr. Cohen and published in Philadelphia, might not only be of vast benefit, but by absorbing all that is good into scientific medicine, crush out those elements of fanaticism, so full of danger.

JULIUS A. WARD.

Hoffman Arms, New York, June 10th.

NO FOOD BUT PLENTY OF WATER IN TYPHOID.

To the Editors NEW YORK MEDICAL TIMES:

I have read with interest and profit Dr. Page's article in the May TIMES, which recalls a case I had in my early practice. In this article the doctor states that he thinks our fever patients are fed too much, and cites cases where his proof seems positive to that effect.

The case above referred to was that of a strong Irish girl, who came down with a sharp attack of typhoid fever and in spite of my words and that of her parents we could not induce the girl of eighteen years to take a particle of nourishment. She simply would not, but drank water many times a day, and when urged to take milk or some other nourishment would refuse and say she wanted some more water. The thirst did not seem to be inordinate, but such remedies as arsenic and bryonia were given to break the thirst, but to no effect. The stomach symptoms were quite marked, diarrhea, moderate tongue, heavily coated, with red tip and edges, sometimes brown and dry, and the fever which reached its highest of 104°, ran its course of twenty-one days without any serious complications. All this time the patient took nothing but water. The loss of flesh was very slight, and out of a great number of cases none made a more rapid or complete recovery. The parents and myself feared much as to the results of so long a period without nourishment, and we constantly urged upon her the necessity of milk or its equivalent, but always received the decided refusal. Not a dose of heart tonic nor stimulants was demanded nor given. After it was all over the young lady said she did not feel the need of food and always felt better after taking the water.

F. P. WARNER.

Canandaigua, N. Y., May 26.

SOCIETY NOTES.

HOSPITAL AND DISPENSARY MISMANAGEMENT.*

The paper read by Dr. Thomas J. Hillis at the meeting of the New York County Medical Society, in the Academy of Medicine, on May 27th last, deserves some notice at our hands. It is entitled "Further Remarks on Hospital and Dispensary Abuses and Mismanagement." Dr. Hillis aims at correcting the system in our public hospitals that places side by side in a ward a man who pays nothing for his board and lodging and the man who does, and treats both men precisely alike. On the subject he says: "In looking over the field of hospital mismanagement and making due allowance for everything, the conclusion is irresistible that the hospital trustee who places the man or the woman who pays no board at a table with the man or the woman who does, no matter how plausible the pretext for doing so, is a promoter of social disorder and an advocate of mercantile dishonor, and does really as much to corrupt and disorganize society as a drunkard, bank burglar or the veriest common swindler, though he may be regarded as a magnanimous host by the crowd of dead-heads he harbors in the wards, whom he makes companions of decent people, who pay him a weekly board bill. No doubt the paupers in the wards count the trustee as chivalrous; if so, it is the kind of chivalry indulged in by Robin Hood and other knights of the road in days gone by, and the kind of chivalry for which men are shot in Southern Europe and on the Mexican border to-day, the chivalry that suppresses facts, that enhances one' honor; that commits cold-blooded murder and places a premium on hypocrisy and falsehood."

The second point in his paper is that the criminal and the pauper so ably represented in our public hospital system should make some reparation to society for favors bestowed on them by it. On this point he says in part: "There are those who claim equal rights for the sick criminal, but they do not constitute the staple element—the bone and brawn of the community, being those, with few exceptions, commonly designated as cranks, the exceptions being as a rule clergymen of the nondescript variety; social agitators who have personal aims to advance and nothing to give away but bad advice, of which they give freely, and milk and water philanthropists, who have not as much backbone as a shrimp. This triumvirate and their followers make an army of no mean proportion, and one which is always in rebellion against the means that civilized society provides for its safety." He continues: "The writer of this article does not think that misfortune and disease level ranks and equalize social conditions, nor does he believe that even death renders void obligations that bind society together in a prosperous and orderly homogenity of interests. For this reason he contends that people who have money and are willing to pay for a bed in a public hospital, should not be thrust into a ward in companionship with a criminal or a pauper; that the pauper has

* Abstract of a paper read by Dr. T. J. Hillis before the County Medical Society, May 27th.

no right to share in their treatment, and further, that the criminal pauper has sacrificed all rights other than what justice and humanity deem should be his."

The third proposition in his article is on how to open up a way for young physicians to become familiar with the practical side of medicine before taking service in a public hospital. He does not approve of the system that sends a young doctor from the class-room with his diploma under his arm, while the ink is not yet dry on it, into the wards of a public hospital to diagnose and prescribe for all manner and condition of ills to be found there. He thinks, and we believe he thinks rightly, that the one who is authorized to do this should be a physician of riper and wider experience than the raw student just invested with the authority to practice medicine. It is really unfortunate that this sort of thing exists at this advanced stage of the world's history; it is not only an outrage on the rights of the people, but an anachronism that must sooner or later fall before the forces of justice and intelligence. Hear Dr. Hillis on this point: "Under the present atrocious system the moment the young doctor is let loose from the restraints of school (because he was more expert at memorizing than some less pretentious, but sober-minded, scholar, who doubtless will acquit himself well before the final race for professional honors is won) he is conducted to the ward of a hospital to treat haphazard or happy-go-lucky the patients quartered there. His less pretentious brother would not dare to take such a desperate leap for fear of killing the person on whom he might fall, besides injuring himself in the bargain. He prefers to take a humbler position in the service of his preceptor and be guided by his maturer judgment; he is creeping cautiously into practice, while the new interne is rushing on with cyclonic velocity, and as disastrous in his results as it. If this interne who so rapidly projected himself against the hospital ward had the hardihood to enter private practice at this express-train speed, he would find himself suddenly derailed and landed in jail, where he might have to plead manslaughter and probably face a term of imprisonment. He will not be asked now to look in the face of a jury, or be put in the dock for lives that were jeopardized or sacrificed to the injudicious use of his knife or his nonchalange diagnosis of acute alcoholism. Why? Because of the influences behind him, not the most insignificant of which is the iron gates and towering walls of the hospital, silent but potent defenders."

The fourth text of Dr. Hillis' paper is entitled "How It Will Improve the Hospital Service to Exact as a Condition of Entrance that an Applicant, Whoever He May Be, for the Humblest Position on the Staff, Be a Graduate of Medicine for at Least Eighteen Months." We consider this a very modest proposition and one that if properly enforced will go far to solve the vexed raw inexperienced interne question that has so harassed Dr. Hillis' mind, and of which he has written so ably and voluminously for years. As Dr. Hillis has well said: "It is as unfair to the young doctor as it is unjust to the public, to put him at the head and exalt him as a teacher and expounder, when in reality he is neither one nor the other, but a very raw beginner." On this subject he says: "A conspicuous feature in public hospital reorganization is that the new interne will begin his work not as an amateur, but one who has had quite some professional experience, having already served eighteen months in charity hospitals, ministering to the physical needs of the sick criminal and pauper," on whom, Dr. Hillis says, "it is imperative he should begin his professional career." Dr. Hillis emphasizes the fact that every hospital, public and private, should have one ward set apart for insane patients. On this subject he says: "There should be three wards in every public hospital, or if the trustees please, four, for the pay patient, one for the insane who are able to pay their way, and, at the trustees' pleasure, two wards for the paupers. It is eminently proper that suitable provision be made for the insane in every public hospital ward in the city. No good reason has at any time been advanced to show why this has not been done before. We can understand why all contagious diseases are barred from public hospitals, on the ground of public policy and the greatest good to the greatest number, but the insane man is not barred on this ground, but only that of expediency, a principle that at bottom is always selfish and narrow."

The fifth topic in Dr. Hillis' article treats on a subject that is of deep concern to every medical practitioner and specialist who wishes to live by honest methods, while at the same time fostering a kindly feeling and lending a helping hand to the higher form of medical investigation. The title he gives this fifth proposition is "How to Abate or Arrest the Fashion of Inveigling Patients to the Offices of Staff Members of Charity Clinics." Dr. Hillis evidently believes that many men enter special departments in charity clinics for the express purpose of furthering their own ends by inviting patients from the clinic to their private offices. They go to the clinic ostensibly to pursue some specialty, while in their office or offices they are only too eager to take any case that comes along, and outside in their general practice make no distinction and draw the line nowhere. The motives and the methods of these men are made plain by Dr. Hillis, who, by some subtle art, seems to have lifted the veil and searched out their inner heart, lays bare secrets that they have hitherto guarded so well. He says: "A cause of deep concern to the medical profession, and a thing that has assumed the proportions of a grievance, is the use made of the hospital and dispensary clinics by designing and unscrupulous persons, who enter them ostensibly for the purpose of giving a helping hand to the sick poor and incidentally to pursue some specialty in line with their inclinations. Those persons are eager to attach themselves to one or another of the many clinics held daily at the dispensary, the hospital or the post-graduate school. Wherever held, the dispensary is supposed to be for the sole and exclusive benefit of the sick poor, and not to serve the personal ends of those who go there to diagnose and prescribe for their ailments."

The sixth and last subject he brings up for our perusal is indeed a very pertinent one, and the facts and arguments he brings forward to support his position are insurmountable, and we think will make it difficult for the city authorities to brush aside without some action being taken in the direction of paying physicians and surgeons who work year in and year out in our city hospitals without pay—the "we-don't-ask-them-to-or-compel-them-to" argument will not work any more, for Dr. Hillis has riddled and destroyed it with volleys of common-sense shot. On this subject he says in part: "The physician who works for nothing for the city hospital, or, for that matter, for any hospital, cannot by his generosity do any permanent good. True, he may render aid in a few isolated cases, but he is not doing the greatest good to the greatest number. It is as much the duty of the municipality to care for its sick poor as it is for it to properly police the city, or build schools to instruct its children; but it does not expect the men who protect the city, nor the architects who design the schools, much less the men who build them, to work for nothing." The writer of this article will say that the first step looking toward any permanent reform in hospital abuses will be taken when every attending physician and sur-

geon in every public hospital in the city is paid a yearly salary for services rendered. If a physician or surgeon be disposed to work for nothing, that is his business, but the city has no right to accept his services for nothing, any more than it would if like services were offered by the corporation counsel, a park laborer or a supreme court judge.

Brooklyn Gynecological Society.—At a meeting of this society, held March 1st, Dr. Frederic J. Shoop presented a specimen of a five-and-a-half or six months' fetus which was delivered with the envelopes intact.

Dr. W. E. Butler reported an interesting case, in which he had removed an ovary and tube on one side, and a portion of the opposite ovary. An examination, one month later, revealed an enlargement of the remaining portion, which he concluded to be a cyst. The patient was placed on parotid gland extract, 5 grains t. i. d., with the local application of the same remedy, with ichthyol tampons and rectal irrigations with the result of decreasing the size of the group. He could not say whether or not the parotic gland was causing this effect.

Dr. C. R. Hyde said that there were no evidences to show that this was the case, but it was known that parotid gland extract, applied locally, would control an exudate. He thought the growth was not a cyst at all, but simply an exudate.

Dr. Albert M. Judd read a paper on "The Causes of Dysmenorrha." In a rather large experience he had tabulated the cases in which pain appeared, as follows: Anteversion, 50 per cent.; retroversion, 59 per cent.; anteflexion, 75 per cent.; retroflexion, 60 per cent.; lateroversion, 0 per cent.; lateroflexion, none tabulated; prolapse, 55 per cent.; combined displacements, 50 per cent. The theory he proposed was that dysmenorrhea was due to congestion and inflammatory conditions of the uterus and adnexa. The neurotic element increased the pain.

Dr. C. R. Hyde had collected 200 cases, which he divided into two sets: those occurring in the married and those in the unmarried. In the unmarried it occurred in many cases of anteflexion, with no other disease present; among 26 of these, 20 had pain, 5 had no pain, and 1 had pain only after the flow had ceased. Among the married women, 17 had premature pain, 8 of whom had tubo-ovarian troubles, and the rest had retroversion. In both these cases there was pre-menstrual pain, and yet the cases differed so.

Dr. George McNaughton said that the uterine cavity was not capable of holding more than eleven or fifteen drops and the distention by a few more drops might give rise to considerable pain; therefore, he believed in the obstructive form of dysmenorrhea. He did not believe that physicians should allow young girls to suffer from dysmenorrhea, but that a rectal examination should always be made, especially under the influence of an anesthetic.

Dr. Chas. Jewett did not believe that we could rule out obstruction as a cause of dysmenorrhea, for we have clotting in the uterine canal which must be, and is, expelled by labor-like pains. These cases are benefited by the dilatation treatment, as by parturition or child-bearing. The number of cases of dysmenorrhea seen in multiparous women is small. Another important factor in the production of dysmenorrhea was a hypersensitive condition of the uterus, an endometritis, as well as a metritis.

Dr. J. O. Polak believed that the treatment by electrolysis was remunerative, but not curative, and, that if continued too long, endometritis would be set up.

New York Academy of Medicine: Section on Surgery.—Dr. John F. Erdmann reported a case of strangulated inguinal hernia, operated upon by him, occurring in a child thirteen days old. He supposed this to be the youngest case on record, but was considerably surprised when Dr. Howard Lilienthal, at the same meeting, presented a patient, upon whom he had operated when the child was eight days old. A hasty search through the literature led him to believe that this was the youngest child that had ever been successfully operated upon for strangulated hernia.

Dr. John Rogers reported his experience with tracheotomy in seven remarkable cases, in which there were no deaths which could be ascribed to the operation. Division of the cricoid cartilage almost invariably led to bad cicatricial contractions. Laryngotomy, except for tumors, was absolutely useless. Chloroform should be the anesthetic of choice. For emergencies, and for chronic stenosis, the high operation was better and safer.

Dr. Brewer's experience led him to dread septic pneumonia after tracheotomies.

Dr. W. K. Simpson believed that intubation, in cases of chronic stenosis, should be the method of choice.

The Practitioners' Society.—Dr. Robert Abbe reported a case of universal peritonitis following ruptured duodenal ulcer, with operation twenty-seven hours later and recovery. About an inch and one quarter below the pylorus a rupture in the duodenum was found; it was about the size of an ordinary lead-pencil and was freely discharging gas and a slimy secretion. In a recent paper on this subject, by Dr. Robert F. Weir, there was a report of fifty-one cases of perforating duodenal ulcer which had been operated upon, with seven recoveries. In twenty-five of the fifty-one cases, the ulcer was found and closed; in the remaining cases the ulcer was not found, and all these patients died. Of the seven recoveries all were operated upon within thirty hours, most of them within six. The most striking symptom in the majority of these cases was the sudden onset of the pain; it was violent and instantaneous, coming on without premonitory symptoms, while the patient was walking or straining, or upon making a false step. In most of the cases vomiting was a prominent symptom. If operation be done within the first six hours, about twenty-five per cent. could be saved.

New York Academy of Medicine. Section on Otology.—Dr. E. B. French read a paper on the early operative treatment of acute mastoid inflammation. The absence or presence of fever has no particular significance in adults, but is indicative of the condition of the middle ear and mastoid in children. The pain is usually severe. Sleeplessness is one of the most important symptoms. In his experience tenderness of the tip of the mastoid had been present in almost all cases of acute middle ear inflammation occurring in the recent epidemic of grippe. Of the symptoms which warranted operative intervention, tenderness over the region of the antrum, he considered the most reliable, but others should be present. A narrowing of the deep meatus should be regarded as an exceedingly grave sign, and if it persists, with mastoid tenderness, no delay should be allowed before resorting to operation. The antrum should be opened and a free communication made with the middle ear. If, at the end of twenty-four or forty-eight hours, there is no change the surgeon should operate on the mastoid.

Woman's Hospital Society.—Dr. W. Gill Wylie reported cases in which he had performed amputation of the clitoris. The first case was a nurse who had been treated at the Post-Graduate hospital, where it was

noted that her vulva and clitoris were persistently irritated. When the doctor took her in charge there was no doubt but that she was a marked masturbator. He amputated her clitoris, which was followed by a complete recovery. There seemed to be an entire change in her temperament. The second case he was asked to see in Bloomingdale Asylum. She was a young Jewess and gave symptoms of intense nervousness and symptoms of local trouble. She had not spoken a word in two years. An examination revealed positive evidences of masturbation, the clitoris being enlarged. This was amputated. She gradually improved up to a certain point. She was sent to the country where she gained in physical health and returned in four months in almost a perfect physical condition. After being watched closely she was considered cured. An alienist gave her small doses of opium, and, at once, signs of marked nymphomania appeared, just like a dog in heat. She then did curious things, following men about, slipping out of her room and getting in bed with men, etc. The stimulation of the opium aroused the amorous feelings. When the opium was stopped the nymphomania ceased. A third case was brought to him by Dr. Spitzka. A young Jewess had some local trouble which required curetting. At the time of operation he noticed the clitoris seemed to be adherent. It was not a marked case of hardening of the tissues from masturbation, but there were little granular spots about the urethra and the hymen was specially reddened. She was possessed with the idea that there was something wrong with her and she made peculiar statements in the presence of strangers. The hood of the clitoris was slit and stitched to the sides, so exposing the head of the clitoris. This girl improved but still has some symptoms which brought her back to the hospital. An experienced nurse found that she was a masturbator and was at times wild with passion. The clitoris was removed, and, in a short time, this patient regained her equilibrium. His plan of treatment was, in general terms, to allow active exercise to keep up the strength and to keep down the passions, give substantial food, keeping the mind busy and avoiding emotional excitement. He thought that a great many young women were going wrong because it was taken for granted that there was some disease or abnormal condition of the brain or nervous system causing trouble instead of their being an imperfect development of the generative organs, resulting in reflex nervous disturbances which can be cured by simple local treatment and improving the general health and surrounding the girl by a quiet environment, without emotional excitement or excessive mental work to allow complete and harmonious development of all her organs.

New York County Medical Association.—Dr. Eden V. Delphey presented a specimen showing an ulcer of the placenta, with a severance of the umbilical cord before birth. The pathologist reported that the ulceration represented a broken-down gumma, and that the end of the cord showed productive inflammation. At the time of delivery the surface of the placenta was covered with old clot, and there was an ulcer on the maternal side, about one inch in diameter. The cord was fourteen inches long. Rupture could only be accounted for by trauma.

Dr. S. Busby Allen read a paper on "Lack of Uniformity in Prescribing Myopic Glasses," and drew a picture of the great evils flowing from the careless and improper fitting of glasses to the myope, resulting oftentimes in great mental deterioration and the blighting of a life.

Dr. L. Bolton Bangs read a paper on "A Contribution to the Bottini Operation for the Radical Relief of Prostatic Obstruction." He narrated one case only in detail to illustrate what it taught him in the way of technique: (1) That the flow of electricity must be maintained to a degree which will keep the blade at white heat. (2) That in measuring a given case for the length of the incision allowance must be made for the action of the galvanic cautery beyond the distance at which the knife shall actually penetrate. (3) That the operation must be done with great slowness, in order to prevent hemorrhage and to get the best results. He reported 34 operations; 60 per cent. of these patients have discontinued the use of the catheter; 20 per cent. have an increased amount of spontaneous urination and are able to reduce the use of the catheter from one-half to only that which is required for occasional treatment; 20 per cent. received no benefit. The largest percentage of cures were among those wholly dependent upon the catheter, *i. e.*, 40 per cent. of the whole number. In regard to the 20 per cent. of failures, he was unable to explain them. The same care was applied to them as to those who were cured. He offered the explanation that possibly that portion of the prostate which we call "extravesical", to the action of which he called the attention of the profession some years ago, and which cannot be reached by the galvano-cautery knife, might have been the cause of failure in these cases.

Dr. Willy Meyer said he had operated upon 39 cases, and in about 75 per cent. of these gonorrhea had been present; this was interesting in the fact that recently there had been published a paper in which it was declared that there was no reason to believe that gonorrhea was largely responsible for the occurrence of prostatic enlargement.

RETROSPECTIVE THERAPEUTICS.

The Treatment of Exophthalmic Goiter with Collodion Dressings.—Dr. Allen T. Haight (*Chicago Med. Recorder*, March) agreeing with the majority of writers on the subject of exophthalmic goiter in believing, first, that toxic conditions are due to a secretion or overflow of secretion of the thyroid; and, secondly, that the toxic effect produces the exophthalmos rapid heart, and pulse action, concludes that if the goiter is reduced the thyroid secretion is reduced, and hence also the toxemia. He, therefore, submits his method of reducing goiter by flexible collodion dressing. His attention was called to this treatment of goiter three years ago, after using collodion as a valuable aid in treating two cases of Hodgkin's disease in twin brothers. He has employed it in six cases of exophthalmic goiter, two males and four females, with enlargement of the thyroid in each case. He records the case of a married woman, forty-eight years of age, in whom the goiter was reduced and systemic symptoms disappeared under the topical application of collodion, accompanied by the administration, four times a day, of ten grains of potassium iodide and one drachm of syrup of hydriodic acid. The applications were made at intervals of three or four days. There has been no return of the disease. The author says that in each of his cases, after the first application of the collodion, all the symptoms were more or less decreased, the pulse rate especially being lowered from ten to fifteen beats a minute, and in one case thirty beats. In four cases all symptoms of the disease have disappeared. The average length of treatment was two or three months, and the period of observation from three to six months. Some dermatitis occurs. Pressure on the trachea may cause trouble at the first application, but soon subsides. The chief discomfort is interference

with the movements of the head. In making the application of collodion, the following points are to be observed: (1) The collodion must be absolutely fresh, so that the maximum degree of contraction will be obtained at each application. (2) Rapid evaporation will be secured by using from twenty to thirty pounds of air pressure, thereby increasing the compression fully one-third. (3) The patient's head should be placed in an easy position, with muscles relaxed. (4) The collodion may be applied with a brush or cotton carrier, and the pressure should be kept constant by repeated applications, as required, at intervals of from two to five days.

Habitual Constipation.—Inject eight ounces of tepid water on retiring, and allow it to be retained until absorbed. Increase the quantity each night while lowering the temperature of the water. If necessary, give an ordinary injection in the morning. Four to six weeks suffice to establish unaided defecation.

RETROSPECTIVE DIETETICS.

Ill-Health and Animal Food.—Says Dr. George S. Keith ("Fads of an Old Physician"): "I give up, under all states of ill-health, the use of strong animal foods, especially beef, and I also give up these in all who, though in their usual health, are of a decidedly nervous temperament, or of the rheumatic or gouty diathesis. To all, even the healthiest, I advise their use to a very limited extent, from their tendency to bring on acute rheumatism or gout, and if taken even by the healthiest too freely and too long, causing, through deposits in the internal organs, diseases which only indicate their presence after cure has become impossible. For the young, I recommend little or no animal food till they reach the term of puberty—in this, following the rule laid down by the writer of the Epistle to the Hebrews, that 'strong meat belongeth to them of full age.' There are few rules that have no exceptions, and, although beef may seem my *bête noire*, I have used it even with children, and with great benefit. In some protracted cases of diarrhea in children a year or two old, given raw or slightly warmed, and pounded very fine, it often acts splendidly. The child usually takes it at once and greedily, and will live on it for some weeks, when the desire ceases; but the child is now cured, and can take other food. Raw beef has much in common with the albumen of white of egg, and in the circumstances mentioned I would just as soon think of giving hard-boiled egg as cooked beef. Beef slightly cooked, and in moderate quantity, is sometimes very grateful to a convalescent from acute disease, and for a time may be indulged in with safety and even benefit."

Farinaceous Soup Diet in Typhoid Fever.—A. Siebert reports, in the *Northwestern Lancet*, Oct. 1, 1900, results of his experiments in the treatment of 153 cases of typhoid fever, in which the diet consisted exclusively of barley, rice, lentil, or pea soup, thoroughly boiled and strained. After the first few days the yolk of a fresh egg was added to the soup. The patient was given about two quarts of the soup in twenty-four hours. The good results of this dietary have been, absence of delirium, clean tongue, disappearance of diarrhea when present, and easy control of temperature.

The Physiological Action of Wine.—"According to the *Chemist and Druggist* of April 6th," says an editorial article in the *Medical Journal*, "M. Roos has reported to the Paris Academy of Sciences his experiments made upon six pairs of guinea-pigs, four pairs of which were given wine daily, while the others were provided with the usual food only. M. Roos finds that in regard to endurance, weight, strength, number of offspring, and longevity, the tests were altogether in favor of the wine-fed animals. We cannot help feeling that those who are ardent in their crusade against the evil effects of alcoholism make a grave error in including light wines under their ban. The general use of such wines as a dinner drink, if they can be provided as cheaply as on the continent of Europe, and of as light a character, should, in our opinion, rather be hailed as an auxiliary to the cause of temperance, than included in the crusade against alcoholism." Mr. Victor Horsley, also, entertained precisely the same "feeling," "belief," and "opinion," upon this subject, until they were reversed and set aside by the results of his scientific experiments—made directly upon human beings, not guinea-pigs!

Corporeal Specific Gravity.—Although the absolute weight of the body is a valuable sign in determining the physical condition of a patient, yet it does not always reflect the true state of health, for a very heavy man need not be obese, nor need a light man be emaciated. Much more definite and valuable assistance can be had from the determination of the specific gravity. H. Stern (*Med. Rec.*, February 9, 1901; *Med. News*), after considerable expense, suggests that the simplest method of ascertaining this point is by the archimedean principle, by which the density is obtained by dividing the absolute weight of the body by the loss of weight which it sustains when suspended in water. He believes that if the specific gravity is below 1,063 or above 1,073, unsoundness of the organism is denoted. Low density means satiation with water or preponderance of adipose; the high figure means disturbed metabolism, general atropic state, or senility. There is also a greater predisposition to infectious diseases when the density is low, and increased susceptibility to eliminative disorders when it is high. Strength and endurance are deficient among those at either extreme, and the duration of life depends so much upon corporeal density that this physical sign should become a valuable one to life-insurance examiners.

A New Use for Vaseline.—When sterilized vaseline is introduced within the tissues it undergoes no change and appears to be retained for an unlimited period. This property, says the *Int'l Jour. of Surgery*, has been made use of for plastic purposes by Gersuny, of Vienna. In an individual upon whom a double castration had been done for tubercular orchitis, several injections of white vaseline were made, finally resulting in the formation of two deposits, which were a fair representation of the original contents of the scrotum. An individual suffering from a difficulty of speech after an operation for harelip received an injection of vaseline under the pendulous fold of the upper lip, and was thus given the amount of labial resistance needed for proper articulation. It is therefore evident that the ingenuity of surgeons will find new and original uses for this procedure.

The Nudity Cure.—There is a village in Austria, near the Adriatic, where the nudity cure is practised. The debilitated, neurasthenics, the tired, etc., can go there and, in the costume of Adam, expose their individuals to the air, the sun's rays, or the rain. Thickets are carefully arranged so as to cut off all view of the patients; a hat and short trunks only are allowed; the sexes are separated. Baths, massage, gymnastics, and games are indulged in, and a strict vegetarian diet completes the treatment.—*Gas. Hopitaux.*

HOSPITAL REPORTS.

Treatment of Paralysis Following Apoplexy.—The history of this case is as follows: She is 55 years of age, was admitted December 23. In early life she was strong and healthy. She has had five children, of which three are now living. In July, 1898, she received a paralytic stroke involving the right upper and lower extremities and side of the face. From this she gradually recovered, but had an attack again in November. Since the first attack, in July, '98, she has had a number of attacks of vertigo and faintness. At the time of the present seizure she was able to walk, and on December 23, as she was sitting in the waiting room at Broad street station, she was suddenly paralyzed on the left side of the body. Her mind seemed to be intelligent, but her articulation was so disturbed that it is impossible to understand her. There was unequal dilatation of the pupils, and there was left internal strabismus. When first attacked she vomited freely and the breathing was stertorous when she was admitted. The fingers of the right hand were flexed and the arm fixed at the elbow, resisting extension. There was no discoverable disease of heart or lungs except for some few râles in the lower part of the left lung. The urine on examination was amber-colored, acid, 1024 in specific gravity, heavy ring of albumin, no sugar, but hyaline casts. That is the history of her previous condition and her condition on admittance.

You can notice a condition of placidity on the left side of the face, which is very different from the right side, and at present there is a conjugate deviation of the eyes, both eyes turning toward the right. When she came in it is noted that the right eye was turned in. She cannot put her tongue out when I tell her to, although she makes great efforts. She holds her left hand with the right. She cannot make the slightest motion with her left arm. When I tickle the sole of her right foot it moves, though this is not so in the left. I thought I noticed a slight movement in the left to show that sensation was not abolished when motion was almost entirely absent. It is hard to make a decision about the loss of sensation when motion is gone. One may be able to feel an injury in the lower centers, when one cannot think about it. This is the commonest state of affairs, that motion is abolished before sensation.

The woman lately has been violently restless, throwing herself about until she has produced quite an abrasion of the skin over the knee.

If I were a neurologist, no doubt there would be a great deal more I should tell you. But I have directed your attention to all that is necessary for making a diagnosis. The woman has had a little tendency to fever, a slight tedency above normal rather than below. It is a bad sign if the temperature goes very high.

The case is an easy one in which to make a diagnosis. The left side is motionless, she cannot move the left leg at all voluntarily, and of the condition of the arm there is no question at all. The left side of the face is perfectly placid. I do not know whether the tongue would come out straight or crooked, because we cannot get her to put it out. The condition is an interesting one, one of the commonest ones; our water supply gets weak, the pipes break, the blood vessels give way and the patient is carried off in one of the commonest ways for old people to die.

One of the interesting things about this is the number of little attacks she has had. In July, 1898, she was seized with right sided paralysis and disturbance of speech. In a few weeks this largely went away, and in November there was a slight return again, with again some disturbance of speech. Remember that the paralysis was on the right side and she had disturbance of speech. Then between this time and the coming to the Hospital she was subject to "fainting attacks." You may read your books and you will not get a full understanding about this; the cause for these slighter attacks is not known. It seems incredible that she could have had hemorrhage after hemorrhage in this way. There is almost every reason to believe that the first attack was the result of hemorrhage, and also this last attack in December. Whether speech is involved or not now, it is impossible to judge, for she is now in a state of stupor. When she first came in it seemed to me she had more or less command of speech.

These attacks of hemorrhage into the brain are usually down towards the base and not on the surface of the brain. When the paralysis is like this it is usually where all the fibers come together, at the base. In regard to the question of the cause of recurrent attacks, I have never been able to get anything satisfactory except that they may be due to clots forming in the brain.

My experience as to the attacks of paralysis is not that they come on during some effort, but when the patient is quiet; one woman is taken while sitting on the couch beside her sister, one woman while sitting at her desk, one man while in conversation with another, and so it goes.

Now, what about the prognosis here? I am unable to say. You will see persons with a paralysis as severe as this, who seem to reach the maximum then gradually get better in a way that will surprise you. One good feature in this case is that there is not much fever. But the fact of the slight internal strabismus occurring first, and now this conjugate deviation show some condition that is getting worse, and her extreme restlessness is a bad sign. People that have had even a slight stroke of apoplexy are never just the same as they were before; they lose their grip. In cases where like this there have been the two previous attacks it is not likely the patient will ever be very active again.

When I was a younger physician, it used to puzzle me very much that I could not see why there was more in these cases than we should expect to find. If one side of the brain is involved, the paralysis should have stopped there, but it did not. The eyes here are turned to the right, which may mean either a spasm of the right recti muscles or a paralysis of the left ones. We are told that the only explanation of this further involvement of the other side is that when the blood is effused in the brain it makes a pressure which is extended more or less throughout the brain substance.

The treatment is an important matter. Even if we do not get our patients well it is our duty to help them as much as possible. These patients used to be bled; that has been given up. Nowadays we always first open the bowels, and physicians vary very much in their methods of doing this. When I was a resident here we used to do it violently by giving croton oil. First we gave one drop, then in a few hours another, and repeat it again until we got them open. It produces a tremendous effect. I could never see the use of this. You want to be careful in the use of your violent remedies. I disbelieve in the use of purgatives in apoplexy. In the hospital we usually give a small amount of calomel or salts. I do not expect much from the derivative effect or relieving the pressure in the brain. What do I do? When a man has an ulcer of the leg which bleeds or if one has a finger cut you don't expect any benefit

to be derived from medicines. To a certain extent this holds good in hemorrhage in the brain. Keep your patient in bed. Give a certain amount of light food, and then treat symptomatically. There is no specific. I am in the habit of giving

Strychnia..... gr. $^1/_{32}$
Dil. phosphoric acid.....♏ vijss
Elixir calisaya.....q. s. fl ℥i

If necessary I give a stimulant. There is no direct treatment which will go to the brain itself to restore it.

II.—I will show you now an elderly woman, 68 years of age, admitted December 20. She had always been a nervous woman, and she complains of neuralgic pains in the head. Before coming to the hospital she began to do foolish things and became violent at night. On admission to the hospital she was so delirious and restless that she had to be strapped in bed. She had to be catheterized, and thirty-one ounces of urine were withdrawn. Her tongue is quite dry and she will not protrude it. She is not very sensitive. I can prick her quite freely on the left leg, and she takes no notice of it. It is not unusual that where there is loss of power there is increased sensibility to pain. When I prick the right leg it jerks, though she is unable to draw it up voluntarily. I judge there is slight hyperesthesia.

Here again is a curious instance. When she came in the only thing we had to deal with was her violent delirium, and when I walked into the ward the next morning I found a distinct paralysis of the right arm, though not the right leg. The nose was drawn to the left side, and she was entirely speechless. A few days later paralysis disappeared and she moved both arms. She spoke and showed understanding. I thought her paralysis virtually passed away and was quite surprised to find this paralysis of the right leg and arm and some contractures. She has quite stiff radial arteries. There is no discoverable disease of other organs. The urine shows a white flocculent deposit, contains albumin and hyaline casts. For twelve or fourteen hours after the attack there was nothing to enable one to tell what was the matter. She was examined here and no diagnosis made.

The prognosis is bad. The disease has been increasing and the condition of disease which enables her to have one such atack will enable her to have another. It not infrequently happens that they recover and go about and die of some other cause. The condition is not confined to the brain alone, for you see the albumin and casts in the urine, showing that there is an involvement in the kidneys. Her paralysis of speech is complete, yet it may return.

The treatment in both of these cases is $^1/_{32}$ grain strychnia and seven minims phosphoric acid four times a day, and I know of nothing better. Neither one is getting stimulants. The first woman has had five grains of Dovers powder from time to time. If we can we will get her some rest by moderate doses of opium. To-night we will give fifteen drops of laudanum, and at the end of an hour, if necessary, ten drops more, so that she may have twenty-five drops. If it gives her rest it will do good, and we shall give it again; but if not we shall not repeat it.

—Christian Science, imported from America and spread by Americans residing in Germany, especially in Berlin, is reported and deplored as making rapid progress among the higher and even the highest classes, although exclusively confined to women thus far.

A NEW PROGNOSTIC SIGN IN TYPHOID.*

THE discovery of a new prognostic sign in typhoid fever is something which the medical profession cannot despise, and more than usual interest, therefore, attaches itself to the recent researches of Waldvogel, which go to show that, in the majority of cases of typhoid, the congelation point of the serum is very much increased, and that if this elevation of the cryosocopic point does not occur, the particular case of typhoid fever will inevitably result in death. This is a fact which, if confirmed, would furnish us with a prognostic sign of the highest value. Waldvogel's conclusions are based upon researches conducted in twenty-four cases of typhoid fever. The normal congelation point of serum is 0.56. The highest points observed by Waldvogel were in two convalescents, 1.68 and 1.28; and the lowest congelation points in three cases, which died, 0.65, 0.63, 0.54. The existence of the high congelation point in convalescents is deemed to be proof that it is not due to the state of the patient's temperature, nor is it due to respiratory changes, nor to inanition.

Waldvogel's first idea was that of incriminating the kidney, attributing these changes to retention uremia, but a special study proved that these patients were not uremic, and latent nephritis had nothing to do with the state of the blood. A more minute examination of the factors entering into the problem has convinced Waldvogel that this elevation of the congelation point can only be due to the presence in the blood of a typhoid antitoxin. If this be true, prognosis founded upon this relative congelation acquires a solid basis, the congelation point permitting us to appreciate the force of the resistance offered by the typhoid patient, and to tell whether the organism is manufacturing the antitoxin in sufficient quantity to neutralize the typhoid poison.

The conclusions which are the outcome of these researches are to the effect that there is always in typhoid patients an elevation of the cryoscopic point of the serum, and that this elevation is not due to a thickening of the blood by depletion of the water through diarrhea, nor is it due to retention of the chlorides, nor yet to renal insufficiency. Nevertheless, the nitrogenous substances are increased in the serum of the typhoid patient, and it is these new albuminoid substances in the serum which produce the elevation in its congelation point, without of necessity increasing its agglutinative power, as Waldvogel's observations go to demonstrate. He considers, therefore, that these substances are formed by antitoxins and possibly by special agglutinates. He draws the following conclusions from his researches:

1. That the elevation in the cryoscopic point of the serum is not attributable in all cases to uremia.

2. In typhoid fever the elevation of the cryoscopic point of the serum is related to the formation of antitoxins.

3. If, in a given case of typhoid fever, the cryoscopic point falls below normal, and is situated in the neighborhood of 0.70, the prognosis becomes very grave.

—The death is announced, at Münich, of Pettenkofer, the great authority on hygiene. He was in his eighty-fourth year. He had been much honored during his lifetime, even outside his own country. He had been much depressed by the inroads of an incurable disease and shot himself.

* The *Medical Age*.

MISCELLANY.

—The English House of Lords has passed a bill that provides special penalties for habitual drunkenness, and also provides that habitual drunkenness shall be treated as persistent cruelty, and entitle a wife to divorce.

—Dr. Herrick, of Grand Rapids, Mich., was recently sued by a woman because he allowed medical students to witness an operation performed upon her. The plaintiff has been awarded $75 damages by a circuit court jury.

—All scientific men will greatly regret the fire at Berlin, which recently destroyed the entire Virchow collection in the Pathological Institute. Not alone specimens were lost, but many priceless documents of world-wide interest.

—A physician (*Dietetic and Hygienic Gazette*) says he has cured many cases of vomiting occurring in various diseases, by applying ice to the back of the head and neck. His theory is that nausea has its seat in the head and not in the stomach

—The *Dominion Medical Monthly* is quoted as saying that "Pressure over the supra-orbital foramen in alcoholic coma will cause a man to come to immediately," and that this is the method used to differentiate between alcoholic coma, diabetic coma, hysterical coma and apoplexy.

—Rostoski (*Muench. Med. Woch.*, 1900, No. 40) has found gastroptosis (falling of the stomach) quite exceptional in chlorotic girls who did not begin to wear the corset before attaining the age of fourteen years, but very common in those who began its use at an earlier age.

—Dr. Ehret of Strasbourg (*Sem. Med.*, March 6, 1901) firmly believes that cancer of the stomach may be diagnosticated in its early stages, when the general health is as yet unimpaired, by the presence in large quantities of the filiform bacillus, which is not a denizen of the normal stomach.

—The population of Italy has practically doubled in the last twenty years, a rate of increase that surpasses that of all the nations of Europe, and even the United States, says the *National Geographic Magazine*, April. This, too, notwithstanding the burdens of excessive taxation, that would tend to diminish the birth-rate.

—Manega and Pullé, in Italy, have cured a case of intense pains in the lower members accompanying hemiplegia, and one of rebellious sciatica, by the subarachnoid injection of 15 milligrams of cocaine or .75 centigrams of a 2 per cent. solution of cocaine. The pains were abolished with a single injection, and have not returned.

—Mlle. De Noualhier has a hobby for caring for consumptives in the last stages, found in Paris, from which city she has them taken to a villa in Limoges, not far away, to be eased in their last moments. She works only among destitute consumptives, taking them to her château, where they are cared for and buried at her expense. She began her work some five years ago.

—An inquest has been held, in England, on the body of a servant girl, who was recently burned to death. While cleaning a grate a cinder fell out and set fire to her petticoat, which was made of flannelette. The coroner remarked that flannelette is a most dangerous material, and that, when once lighted, there is no hope of extinguishing it. Deaths from the catching fire of flannelette nightshirts have been previously recorded.

—An Italian journal records an extraordinary case of fecundity, of which it guarantees the authenticity. Flavia Granata, who, it appears, is well known at Rome, has recently given birth to her sixty-second child. This woman is now fifty-nine years old. She was married at twenty-eight, and has successively given birth to a daughter, then six sons, then five sons, then four daughters, and then a long series of twins annually, and ended by having four sons.

—The trustees of the New York Academy of Medicine have announced the receipt of $10,000 from Mrs. Sarah Barker Gibbs and Miss George Barker Gibbs, for the establishment of the Edward N. Gibbs Memorial Prize Fund, the income to be awarded triennially to the physician of regular standing in the medical profession of the United States who shall present the best original essay upon the etiology, pathology and treatment of the diseases of the kidney.

Dr. I. L. Van Zandt has made an excellent résumé of the treatment of pneumonia with creosote, in the *Medical Record* of March 30, 1901. He concludes that, "with this array of testimony reënforcing my own observations for the last seven years, I trust that the members of this association will not consider me oversanguine when I express the opinion that the use of creosote or carbonate of creosote in the treatment of acute pulmonary inflammations is one of the greatest life-saving discoveries of the century just ended."

—The approach of warm weather reminds the *New York Medical Journal* of the following statements in the *Indian Lancet* of November 1, 1900: "A new hot-weather ailment has whirled into existence. It is called 'electro-fanitis,' and hails from the United States, the land of the electric fan. It is a sneezing, coughing, cold in the head, caused by the germ-laden breezes of the electric fan. It is almost epidemic, and, unless properly cured, may develop into two other diseases of the same family—tonsillitis and bronchitis. Being caused by artificial atmospheric conditions, it is much more difficult to cure than an ordinary cold. Furthermore, these currents of air are not the fresh waves of ozone which are in circulation outdoors. They are nothing but impure air forced into motion."

—Texas has an isolated farm for those convicts suffering from tuberculosis, where they receive treatment practically similar to that followed in sanatoriums, and have a highly nutritious diet, including stimulants. When able to leave their beds they are obliged to be in the open air, and they sleep in a spacious stockade. The employment is entirely in market-gardening, and no one is required to work beyond his strength. This farm has returned to the State, in two years, a net profit of about $2,500, and it is said many men who went there scarcely able to feed themselves, and apparently in the last stages of tuberculosis, are now quite well. The Alabama Legislature has recently ordered a similar segregation of consumptive convicts.

ORIGINAL ARTICLES.

THE ABDOMINO-SACRAL AND OTHER NEW METHODS FOR THE EXTIRPATION OF RECTAL CANCER.

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PART II.

When, in 1886, Kraske stepped forth with his "para-sacral method," which he had frequently practised on cadavers, but only twice carried out on the living, his procedure appeared probably just as bold and rash as does now the idea of *various* authors to operate by the abdomino-sacral route.* This was frequently made manifest in the discussions of that period. The advance of that method lay therein that *hitherto* (1886) *inoperable carcinomata became approachable,* that one came more *directly* than *formerly* upon the *diseased part,* and that in proportion thereto a *more radical removal* of the *tumor,* together with the *glands,* in the *sacral concavity* was made possible. The assumption of Arndt, that this method added nothing new to that of Kocher, who made his entrance by a "posterior longitudinal incision," and removal of the coccyx, is incomprehensible, and *has* been *thoroughly refuted,* so that there is no need of our entering upon it. We should like to mention, however, in contradiction of the shortsighted criticism of this method by Arndt, the words of Rehn, who emphasized at the Surgical Congress of 1890 that the *essential* part of the Kraske method would always remain the *"para-sacral cut,"* whether it be a simple soft tissue cut or combined with partial or transverse severance of the sacrum —"the essence of the operation consists in that the neoplasm which is to be removed, is attacked, *not* from below, but from *behind* and *above."* In the same discussion Rehn emphasizes that "it appears as if it were frequently overlooked that Kraske had in his preliminary anatomical studies observed that the para-sacral cut made room for the operation to a remarkable degree." Clearly this remark refers to the lively efforts of that time to increase the entrance to the pelvis by resection of the sacrum, such as were anticipated by Kraske in his first publication. Kraske says: "Moreover, I state specifically that the procedure is in need of improvement, but it is, I believe, also capable of being improved. In especially difficult cases I should not hesitate to carry off more of the sacrum to the right, and open the sacral canal." According to this, Kraske himself admits the justification of such extended resections, but, in his late writings, considers it absolutely unjustifiable to make a priori such a severe preliminary operation, when the same is not warranted by special conditions; thus he opposes the method of Bardenheuer, who (on general principles) recommends the transverse resection of the sacrum in all cases. "It is, in fact, impossible to see how Bardenheuer comes to the conclusion that the transverse resection of the sacrum is less severe than the lateral; so much appears certain, where the sacral method is practised, that for many cancers a simple soft tissue cut with severance of the ligamenta sacro-spinosa et tuberosa is sufficient. But everybody will admit that both through the position of the tumor and firm adhesions of the same with its vicinity, as well as in case of abnormally narrow sacro-ischiadic space, the removal of a piece of bone may appear desirable to obtain greater space. To unbiasde judgmeit it is, no doubt, in the first place, correct to use the soft part cut as an exploratory one, in cases of highly located tumors, and to add one or the other resection only when the space exhibits itself as inadequate.

It is surprising that Bardenheuer rejects the exploratory cut in such cases, and from the start undertakes the resection of the bone. The undertaking of such an operation, from the start, appears to us much better justified in cases where the configuration of the pelvis leads us to expect so narrow a "spatium sacro-ischiadicum," that one surely will not find entrance and sufficient room.

In such difficult cases one must remember that Rose has successfully removed the sacrum as high as the second sacral hole, and, since he got his *whole arm* into the body, has apparently obtained a very wide entrance. Under all circumstances, however, this preliminary operation is to be regarded as a severe one, and, therefore, only to be applied in last emergencies.

Osteoplastic resections must, however, be regarded from an entirely different point of view; this idea is original. Heinecke forms two skin-bone flaps by a median cut over the sacrum and coccyx, and by a transverse cut at the upper end of this longitudinal one, which sever skin and bones.

Schlange and Levy form a flap at the height of the third sacral hole, and flap it downwards. Hegar, a similar one from the side through a parasacral cut. The fear that this operation would occasion a paralysis of the sphincter ani has been refuted through contrary experience. And further, necrosis of the bone does not always occur, but it is only in the rarest cases that bony union is attained. There are other considerations which oppose this operation. An osteoplastic operation requires an aseptic wound healing, but this can be obtained only in the fewest cases of rectal resection, because usually the posterior gut wall does not withstand the fecal masses, and the wound becomes soiled. The only sure protection which has been found against this pollution is the tamponade. This is, in fact, striven for by Schlange in his method, insomuch as he recommends, in opposition to Levy, not to place the bones together, but to tampon the wound and to leave the approximation of the bones to the cicatricial contraction of the wound healing by granulation. A comparison of these severe bone-operations, which pay no regard to an opening of the spinal canal, with the parasacral cut as now practised, according to Hochenegg, must naturally result in preferment of the latter. We believe also that, just as in the case of permanent bone resection, the osteoplastic ones are only admissible in cases of narrow "spatium sacro-ischiadicum." In determining the indications for such cuts we would like to refer to the careful work of K. Johae. The high situation of the carcinoma and adhesions to the surroundings we do not consider an *a priori* reason for preferring the severe transverse resection to the parasacral cut. If the parasacral cut does not suffice, one can easily remove a wing of the sacrum, or, if one cares to, make an osteoplastic insertion, according to Hegar's method.

Whilst in case of the already discussed methods, in the face of the severity of the malady and the frequently observed recurrences, one did not hesitate at any method which appeared to offer better chances of a more rad-

*Santers, *Berl. Kl. Wochenschrift.* "The Kraske Operation is considered by eminent German surgeons as still an "ad hoc sub judice," according to the French press utterances as an act of reckless daring."

ical removal of the cancer, the endeavor has become evident in the last five years to avoid these severe preliminary operations, and to replace them by smaller soft-tissue cuts; apparently according to the gynecological technique in vaginal extirpation of the uterus, whence to remove the diseased parts in the same manner, as the uterus is freed from its ligaments and surroundings and pulled down into the operation wound.

The method of Rehn, to make the tumor accessible *per vaginam,* deserves, for this reason, to be called a "vaginal method," because involuntarily we will think of the vaginal hysterectomy. That the removal of a rectal cancer in this way is possible has been sufficiently demonstrated. But when we compare this with other methods, we must consider several questions, viz.: "When does this method come into consideration? Is it really less severe than the sacral? Does it offer the same chances for a radical removal of the cancer?"

Certainly every one will consider it indicated in those cases where a deeply situated carcinoma, which has already attacked the vagina, is to be removed. The method is, however, applied and recommended by Rehn, in cases of highly located cancers, which have not attacked the vaginal wall.

Rehn was satisfied that the splitting of the vagina gives enough room to take out a large rectal cancer with all the desired thoroughness. "The carcinoma sat over the peritoneal fold. The peritoneal cavity had to be opened. Rehn lauds the operation because he could finish it comparatively easily and almost without loss of blood. The old lady left the operating table with good pulse, *but died of peritonitis!*" The result causes one to reflect, and Rehn follows it up. The severance of the gut before its evulsion he considers necessary. He has no doubts, however, that one will succeed to peel out the gut from above after opening the Douglas *cul-de-sac.* However, so clean and exact an operation as with a previous severance does not seem possible to him. He considers it most desirable to produce an *invagination* of the neoplasm without opening the intestine. That, however, will only be possible in the rarest of cases. The necessary opening of the gut must, on account of the narrowness of the space, surely have its disadvantages. In addition to this, in our opinion. comes a second disadvantage in cancers situated higher up; we have been thinking of the loosening of the intestine from the sacral cavity, where Rehn proceeds by grasping each strand as it is stretched with a clamp forceps, then to severe it. These parts, so accessible to the sacral method, are certainly more difficult and less thoroughly removable by the vaginal method, because of the danger of hemorrhage from the vessels entering the intestine from the rear. Always, however, will the space between the two tubera-ischii and the symphysis be narrower than the sacro-ischiadic space in a normal pelvis. These same views are advanced by Schuchardt,* when he says: "In the case of the usual carcinomata, affecting the pars pelvica, the diseased glandular structures lie directly at the external wall of the portion of gut, and farther up in the sacral cavity; in advanced cases, even to the promontory and farther up along, the spinal column. From these facts we deduce that for the extirpation of the carcinomata recti those methods are the best which make the rectum accessible at the same time with the 'excavatio sacralis.'" This brief remark of Schuchardt's contains indirectly, it appears to us, a refutation of the vaginal method. For two reasons, therefore, we should not like to recommend this method for the cancers situated within the domain of the peritoneal covering; in the first place, because we consider the space too small to admit of inspection of the peritoneum, and because the peritoneal cavity can, for the same reason, not be sufficiently protected against pollution; secondly, because the "excavatio sacralis" can not, we believe, be so readily freed of the diseased glands as with the sacral method. Just upon this point Liermann, in discussing the cases operated by Rehn, goes into detail, apparently not without a purpose. He praises the vaginal method, because with it the peritoneal fold can be more closely inspected than with the sacral, so that one can apply stitches comfortably, which, according to a remark of Kraske's, is often technically impossible. We would like to call Liermann's attention to the fact that Kraske's remark is not to be understood in this way, but that, from the context, it is evident that a technical impossibility of suturing only occurs with very highly situated carcinomata of the *posterior* wall, whereas *anteriorly* the peritoneal pocket can often be closed, even by a simple ligature. Moreover, Rehn and Liermann have both expressed themselves that a tamponade is the simplest means. According to this, it appears that also with the vaginal method the suturing is time-wasting. But as regards the sacral cavity, there can hardly be a doubt that the cut which opens the sacral cavity gives a better inspection of the diseased tissues than the vaginal cut, even when carried to the tubera ischii. It appears to us that the entrance by the vaginal route depends just as much on the capacity of the pelvis as that by the sacral, perhaps with one exception, *i.e.,* that in a *"flat rachitic pelvis"* the *entrance* may be somewhat larger. Besides this, we should like to emphasize that the entrance by the vaginal method has its absolute limits—*i.e.,* posteriorly in the anal ring, anteriorly in the symphysis, laterally in the tubera ischii; whereas, with the sacral cut it is easily possible to increase the entrance by permanent or osteoplastic resection.

We consider, therefore, the vaginal method indicated only in cases of deep-seated carcinomata, especially when the vaginal wall is already affected; whereas, for more highly situated carcinomata we must always prefer the sacral method. In case of more highly situated cancers we regard the vaginal method not as an advance, but rather believe that the patient pays dearly for the more rapid healing of the soft tissue cut, insomuch as the already scant probability of a radical cure is even made less likely. If, in the case of old people, or for other reasons, a radical cut is not especially sought, one may give preference to the more conservative soft-tissue cut. We always support the standpoint that the ideal efforts of the surgeon must be not merely to remove the primary tumor, but also the regionary glands, and the adjacent tissues, even when not macroscopically diseased, to as great an extent as possible. Only thus can we hope to experience real joy from our labors, that we obtain lasting cures! For this end, however, we believe that even the sacral method will not suffice in all cases, and if we expect any advances in this direction we can only hope for them from the abdominal-sacral method.

That one *should* strive to find a radical operation, is sufficiently demonstrated by the experiences with the previous methods; for, that one can obtain "definite cures" must be regarded as certain, and that "durable cures," as Quenu so neatly expresses himself, are not even rare under previous methods is shown by statistics. I beg, therefore, permission to give Quenu's statistics on "lasting" and "definite cures."

* *Deutsch. med. Wochenschrift,* August, 1889.

	No. of Cases.	Duration of Cure.
Billroth	1	4 years.
Volkmann	2	5, 6 "
Esmarch		3, 4, 8, 11 "
Czerny (in Summa) ..	99	
	15	3 "
	13	4 "
	8	5 "
	1	6¾ "
	1	8¾ "
	1	11½ "
Kraske (in Summa) ...	55	
	15	over 2 "
	2	" 5½ "
	2	" 8½ "

Kocher has even "definite cures" of fourteen and sixteen years.

From this it seems fully justifiable if the bold surgeon is inspired with the wish to help his suffering fellow mortals thoroughly, and if he, therefore, incessantly strives to improve the operative methods and lessen the dangers of operation.

That method will hence be *a priori* the best which offers a clear survey of the determinable diseased parts and which shows the relations of the same to the possibly already diseased, even if not visibly so, and jointly affected neighboring tissues. Only such a method will thoroughly stop the malady, and not only achieve a "duration cure," but a "definite cure." These advantages we expect from the "abdominal-sacral method." The opening of the peritoneal cavity unquestionably enables us to view the relation of the cancer to the peritoneum, gives us clearness concerning the position of the same in relation to the abdominal vessels to the neighboring parts (bladder and uterus), and gives us positive information as to the disease of the higher located *meso-rectal lymph-glands*, which no other method does. The fact alone that this method, really without a positive known originator, has evolved itself in the course of the last years, seems to show how inportant the *view into the pelvis* is considered. Simultaneously also the necessity of opening the abdomen from above in certain cases, where one believes one should attain one's object by other methods, shows the inadequacy of those methods. Czerny could not finish an operation begun with the perineal cut, and was obliged to follow up with laparotomy. Czerny made the attempt, as Quenu and Hartmann inform us, to mobilize a tumor located at the promontory, by the perineal route, but had to give it up; made laparotomy, and then successfully carried out the extirpation; however, the patient died twelve hours later. Similar attempts are reported by Quenu of Gaudier, Boeckel, and Chalot, *et al.* Notable in the communication of these authors (Quenu and Hartmann) is the intention to deduce a new method from these operations which were carried out in emergencies arising during other operative attempts, viz.: *"Methode abdomino-perineale avec colostomie ilioque."* Colostomy is remarkably beloved among the French for carcinoma recti. The reasons therefor we can hardly comprehend, still less the application of colostomy with this new method. One should think that a mobilized colon should more naturally find its place and implantation *at the sphincter than in the lumbar or iliac region.* Granting the safety of the wound healing, the subsequent discomforts of the patient stand in evident disproportion to this advantage, since it is possible, even when implanting the colon in the anal ring, or with circular suturing, to attain a smooth run of wound healing. None of the histories of operations appended by Quenu and Hartmann show any signs of a desire to preserve the patient's sphincter! We doubt if, by "pelottes" or by implanting the colon between the fibers of the gluteus, a well-functionating closure can be attained. We would like also to point to the fact that Boeckel begins the "combined procedure" with a perineal or sacral cut; that, on the other hand, Quenu himself, Reverdin, and Schwarz, first carried out laparotomy. As important we should like further to point out that after opening the peritoneal cavity the sigmoid flexure above the tumor was transversely severed between two ligatures, and the two gut ends wrapped in gauze to avoid infection, and, whilst the upper gut end was placed in the applied wound or in another one, the lower end was loosened from its connections, together with the meso-colon and rectum, *after the arteria hemorrhoidalis superior* had been carefully ligated in its continuity. This loosened piece of gut was removed through a perineal or sacrel cut by either taking away the whole piece of gut or by closing the lowest and healthiest piece in a special manner.

It seems to have been unknown to Quenu and Hartmann that Sonnenburg* reported a case four years ago, in which he had an excellent result on a rectal cancer by *following* up laparotomy with the sacral operation; also that Kraske† already, in the summer of 1893, carried out such an operation in the case of a high-sitting, ring-shaped, firmly adherent rectal carcinoma, seems not to have been known to Quenu. Kraske had the misfortune, in attempting to loosen the tumor from its adhesions, to tear off transversely the weak gut in the vicinity of the neoplasm. All efforts by the sacral route to get the remnant of the tumor, sitting firmly high up in the pelvis, and to pull down the end of gut whose open end lay in the peritoneal cavity, were in vain.

In this embarrassing condition Kraske opened the peritoneal cavity in the inguinal region and then he succeeded astoundingly easy in loosening the tumor, to resect and to unite the gut ends in the sacral wound. This combined operation, which, as already stated, was designated by Richard Volkmann more than twenty years ago as the operation of the future, and which was here carried out on the spur of the moment and without previous intention, Kraske attempted to develop into a method. With the permission of Professor Kraske, I will give his views, which he expounded at a clinical lecture in the summer of 1899.‡ "After numerous experiments on the cadaver, Kraske has attempted the operation on a number of patients with some success, and is to-day firmly convinced that the "abdominal-sacral method" not only makes a number of more firmly adherent, highly seated and otherwise not removable cancers operable, but that also in a number of movable tumors it offers decided advantages; yes, that it will be perhaps the operation of the future. Kraske operates thus: With the patient lying with a much elevated pelvis the abdominal cavity is opened in the left inguinal region by a cut running parallel to Poupart's ligament. This cut must, while the rectus muscle is pulled forward, be carried to near the middle line; if necessary, the entrance to the abdominal cavity is increased by a longitudinal cut at the outer edge

* Sonnenburg, "Beitrag zur operationen Behandlung hochsitzender Mastdarm-strikturen." *Archiv, f. Cl. Chirurgie*, L.V. S. 713 1897.

† Kraske, "Erfahrungen uber den Mastdarm Krebs." *Volkmann's Samml. klin. Vorträge*, N. F., 1897, 183–184. Fall 47.

‡ The patient was exhibited at the "Upper-Rhine Physicians Day" in Kraske's Clinic for the physicians of the upper Rhine valley to Professors Ziegler, Bäumler and others.

of the rectum. By means of large blunt retractors the wound edges are pulled apart and the abdominal cavity shut off above and toward the right by means of gauze tampons, and the loops of small intestine which were about to prolapse held back. One can then immediately by eye and finger easily determine the upper boundaries and extent of the tumor to the adjacent organs and the lymph glands. If one sees that an extirpation is absolutely impossible, one can use the incision for the immediate application of an artificial anus at the sigmoid flexure. If, however, the radical operation seems possible, the peritoneal covering of the intestine above the tumor, *i. e.*, usually at the entrance into the lesser pelvis, is transversely severed. *On one medial side of the gut, therefore, one comes upon a branch of the superior hemorrhoidal artery running within the mesentery to the rectum, the pulsation of which one can easily feel or see.* This vessel is double-ligated and severed. Thereupon the fatty tissue of the mesentery is divided and now it is very easy, by the use of the fingers, to loosen the intestine on its posterior side, together with all the fat and all the lymph glands out of the sacral concavity as far as way into the lesser pelvis. In order to now free the intestine anteriorly, the peritoneal covering is severed on both sides of the intestine in the direction of its axis up to the bladder and uterus and unite the ends of these longitudinal cuts through a transverse cut running in the fold of the same. If there are no adhesions anteriorly the loosening is very easily carried out. To guard against unintentional traumatism of the bladder a catheter is introduced. To loosen the intestine anteriorly too far is not only not necessary but might also seriously interfere with the nourishment of the lower part of the rectum, which is to be preserved. It is entirely sufficient, generally, to free the gut to about 2 c.m. below the lower borders of the tumor. When the diseased part of the rectum is loosened all around one looks to ascertain whether the tumor can be pushed down sufficiently far into the lesser pelvis, *i. e.*, if the place at which the gut is to be transversely severed, can be sufficiently drawn down, so that after the resection the upper gut end can be sewn to the lower without producing too much tension. If there still exists an obstacle, the mesentery is stretched and cut into. In doing this, however, one must proceed with the utmost caution. Under no circumstances dare larger vessels, *i.e.*, the sigmoid branches of the arteria hemorrhoidalis superior and the greater vessels arches formed by anastomosis of the arteria coli sinistra, be severed. It is, therefore, advisable, while severing, to keep close to the outer side of the already severed lower branch of the hemorrhoidal artery; in other words, to keep close to the root of the mesentery. At this point even very slight cuts have usually a surprising result.

When thus the diseased part of the intestine is fully freed and the sigmoid flexure made sufficiently mobile, the abdominal act of the operation is ended. One now merely tampons the deep wound pockets running way into the lesser pelvis and especially into the sacral concavity, with the long strips of gauze, closes the abdominal cavity temporarily through a couple of gauze tampons and places the patient in the right lateral position. The now following sacral act of the operation is carried out in the usual manner. A resection of the sacrum is always to be avoided, but on the other hand a removal of or temporary exarticulation of the coccyx is to be recommended. If the sacral cut has divided the outer soft parts and the sacroischiadic ligaments one searches in the upper corner of the wound through the musculature of the levator ani for the resistance offered in the concavity by the gauze tampons. One enters upon them by an incision carried in the longitudinal direction of the fibers of the levator and through the bluntly more widened opening the intestine can be drawn forth with the greatest of ease. The tumor with all the retro-rectal fat and the lymph glands lies in the front of the sacral wound. Up to this point, since the gut has remained closed or intact, the operator's hand has in no wise come in contact with the intestinal contents or cancerous ichor. The patient must now again be placed in the dorsal position. The provisary tampons are removed, the wound conditions in the abdomen, especially the position and state of the gut which had been drawn out, are re-examined and, if necessary, corrected; new long gauze strips are introduced, which, closely packed together, fill all recesses and cover all wound surfaces, and whose ends run out of the corner of the abdominal wound. The abdominal wound, moreover, can be closed by sutures. Kraske considers it, however, entirely safe, nay, in consideration of the ultimate care of the abdominal wound, even better, to first carry out the resection and suture of the gut and proceeds thus: Immediately below and above the tumor the gut is closely ligated with thick silk threads and the lower section of gut transversely severed before the ligature. Thereupon, the tumor being meanwhile drawn well to the rear, the gut is opened on its anterior side above the upper ligature by a transverse cut 2½ c.m. long, whose upper wound edge is immediately sutured to the corresponding place of the lower intestinal opening. Then this cut is increased above the tumor in alternation on the one and then on the other side and every cut is immediately sutured. In this way the union of the gut ends is easily effected and, when the tumor is completely disengaged, the union of the two gut ends requires but a few stitches. Now follows another examination of the wound surfaces, a thorough tamponade from the sacral wound and, if it has not already been done, the permanent treatment of the abdominal cavity."

As an essential difference between this method and Quenu's operation we *regard above all the opening of the gut* only after a complete freeing of the same from its connections, and *as the last act* of *the operation,* and done outside of the peritoneal cavity. This really satisfies the intention uttered by Gaudier: "de faire une extirpation sans violer les lois de l'asepte"; for Gaudier is forced by his method to pull down through the lesser pelvis the gut which had been previously opened (of course protected by gauze strips). As an aseptic procedure we can hardly consider this, although we believe that by the employment of proper care the danger of infection will even be little.

On this occasion we should like to point out the difference of this method and Quenu's, who, apparently, after severing the intestine above the tumor, as a matter of principle applies an artificial anus, and sacrifices the whole lower section of the intestine, together with the sphincter. To whomsoever the preservation of the lower rectal portion and the sphincter seems of no value the Quenu method (?) must certainly appear as the most radical and at the same time the most simple. Kraske, however, refuses to consider the annoyance and repulsiveness of a sphincterless anus as so trifling that he should give up the preservation of the lower rectal portion and the preservation of the sphincter. For the claim that recurrences take place, especially in the lower rectal sections, Kraske can not find support in *his* experience. The recurrence appears, if one has, while

resecting the cancerous gut at the customary distance from the usually sharply defined borders of the tumor, never in the lower rectal part, anyhow in the first place not in the intestinal wall but always takes its origin from the peri-rectal tissues and mostly from the lymphglands, which lie largely on the posterior side and reach up to and beyond the promontory. The operation described comes first in consideration in those cases of high located tumors in which, on account of firm adhesions, the possibility of an extirpation by the sacral route is no longer to be assumed or at least must appear very doubtful. In those cases in which the necessity of the application of an artificial anus seems usually anyhow inevitable, the physician and the patient will decide upon it all the more readily. For, if after the opening of the peritoneal cavity, the absolute impossibility of an extirpation becomes manifest, the laparatomy was not made in vain. The abdominal cut can be immediately utilized for the application of the artificial anus.

The "abdomino-sacral method" offers practical and important advantages in three ways: In the *first* place it permits, during the most difficult and most important part of the operation, namely the loosening of the tumor from its surroundings, *to leave the intestine unopened.* Every pollution of the operating hand by intestinal contents and cancerous secretions, which is usually unavoidable in spite of all care, is done away with, and so the danger of an infection of the peritoneum and, what Kraske considers much more important, the danger of an *inflammation of the pelvic cellular tissue* is reduced to a minimum. *This point* is *unquestionably of great importance.*

Secondly, there exists the possibility of a more exact care of the blood vessels on preceding the extirpation of the tumor by the ligation of the chief vessel, the arteria hemorrhoidalis superior; one can operate much more rapidly and without hemorrhage while loosening and resecting the gut, which usually brings with it the ligation of numerous vessels. On the other hand, the *preservation* of a *sufficient circulation in the upper part of the gut,* depends on the greater care and pains with which one can treat the vessels of the mesentery while mobilizing the sigmoid flexure from the abdominal cavity.

In the third place, this procedure makes possible a more radical removal of the cancer, for it reaches besides the glands in the sacral concavity also the higher located meso-rectal glands much more safely than could be done with one of the earlier methods, since all diseased parts can be plainly inspected.

The apparently greater danger of this operation through the wide opening of the peritoneal cavity is decidedly counteracted by the possibility of a more rapid termination of the operation, by a safer hemostasis and prevention of pollution of the tissues by intestinal contents (bacterium coli commune, etc.).

From this point of view we are of the the opinion that this operation, already anticipated by von Valkmann, will be the operation of the future, and we hope it will prove a pleasure to the surgeons and a blessing to suffering humanity.

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TREATMENT AND ETIOLOGY OF YELLOW FEVER.

BY M. E. FITCH, M.D.

THE yellow fever problem is more important to us Americans than it has ever been before. It is an endemic disease in certain seaports of the Gulf of Mexico and West Africa and other tropical and subtropical regions. Of the endemic foci of the disease the most interesting is Havana, from which the most extensive epidemics have started. This is true of the one which swept over Philadelphia in 1797, and also true of the epidemic of 1873. This latter one reached Memphis by way of New Orleans. The epidemic of 1878 was a most extensive one in America. It invaded 132 towns, and caused a mortality of 16,000 out of 64,000 attacked.

As is the case with cholera, large areas of the globe are in continual danger so long as the endemic foci are smoldering. Dr. Charles Finlay, a resident of Havana, states that in the last fourteen years not a month has

passed without at least one case of yellow fever in that place. The only endemic focus in North America is Vera Cruz. Epidemics of yellow fever are much more confined than those of cholera; that is, it never becomes a pandemic, encircling the globe as does cholera. In North America it never extends further north than Portsmouth, N. H., nor further south than Montevideo. The disease has invaded a few ports in England and France, but has never prevailed in Europe.

A word as to the etiology of season. The disease is more prevalent during the hot months. In a report from 1870-1879, the average number was vastly greater during the summer months. There are apparent exceptions to this rule, but they may be due to the degree of moisture in the atmosphere. This has been denied, but the atmosphere is often close to the point of saturation where the disease prevails. There is an apparent contradiction to this rule; that is, the statement that the disease declines with the onset of heavy rains. But rain, by cleansing the streets and flushing the sewers, cleans out the disease, and the moisture that descends presents a different condition from the moisture remaining in the atmosphere. Cold and heavy frosts are inimical to the activity of the disease.

There is the question of altitude. It is a disease of low-lying regions. Chattanooga, Tenn., which is 745 feet above sea level, is the highest point here where an epidemic has prevailed. As to the race, the negroes of the tropics and the Chinese coolies imported into the West Indies seem to enjoy an immunity from yellow fever. In a battalion of African soldiers that were sent to take part in the invasion of Mexico, not one case was found. It is said that this original immunity may be lost by long-continued residence in a temperate climate. The same thing is true of people who have lived in Cuba or Havana. If they come here for several years and return, the immunity is lost.

Males are attacked in larger numbers than are females, but it may be from their greater exposure, and their greater mortality may be due to their more intemperate habits. Women in Havana are kept rather closely at home. No age enjoys an immunity, though infants and aged persons are less often attacked. It may be for the same reason of greater confinement at home. In the epidemic of 1878, at New Orleans, 206 victims of the disease were under five years of age, and among these were twenty-six deaths, so there are apparent exceptions. The late Dr. Blair believed that infants are specially prone to the disease.

Something about the mode of infection. The evidence is overwhelmingly in favor of the theory that it is not from person to person, but indirectly carried through fomites. A proof of this is that in an epidemic when people flee from Rio, a great focus, though they are already infected, the disease never spreads from them. The infection acquires its virulent properties outside of the body, the poison being found in the fecal evacuations. Victims of the disease acquire it, not from each other, but from a common source.

People talk a good deal about the germ of yellow fever, and especially about the investigation of Sanarelli, of Brazil. The question of the discovery of such a germ is still open to discussion. Great claims have been made in this line by Domingos Freire, but they have been refuted by Sternberg. Sternberg was appointed by President Cleveland in 1887 to go to Brazil and Mexico to study yellow fever and examine into the investigation of Freire. Although he was thoroughly equipped for the work, and a diligent student, the results were absolutely negative. He discovered no micro-organism, and a specific micro-organism has not yet been generally acknowledged to have been discovered.

In the treatment of yellow fever the first subject to be considered, of course, is prophylaxis. I will mention the rules that Sternberg lays down: (1) Exclusion of the organism, by sanitary supervision at the port of departure of a ship, and by thorough disinfection at the port of arrival, when there is any reason to suspect the presence of the disease germs. (2) Isolation of the sick—on shipboard and anywhere. (3) Disinfection of the excreta and clothing of the patient. (4) Depopulation of infected places, which means the removal of all susceptible individuals, except those absolutely necessary for the care of the sick.

The methods of preventive inoculation which have been practised by some are now believed to be useless. I will simply say that Dr. Charles Finlay employed the mosquito for inoculation with what he regarded as success. I would not mention this, except for the undoubted authority of this physician. The insect, confined in a tube, was applied to the skin of the sick person, and then later applied to the one whom he wished to render immune. He did this in two communities of priests who spent some time in Havana and were all more or less susceptible to the disease. In 1893 the disease broke out in their establishments, and he claims that the mortality was 33 per cent. among the non-inoculated and 13 per cent. among the inoculated. The numbers were small, but the case is interesting. There may be something in it. Everything tends to prove that malaria germs are conveyed by the mosquito.

The point of most importance is individual prophylaxis. This consists in running away, or, more elegantly, the "shunning of infected localities"; in abstinence from excesses of all kinds, including violent exercise; in avoidance of exposure to the direct rays of the sun. I know of a gentleman who spoke of that necessity, who afterward killed himself by exposure. He was in an infected locality, became melancholy and deliberately exposed himself to the sun, and got yellow fever. Care of the bowels is also important.

It is universally believed that there is no abortive treatment for this disease. The recent statements of Dr. Blair, that it is of value to give quinine and calomel, followed by castor-oil, have not been corroborated by experience.

The treatment depends on the stage of the disease and severity of the attack. Mild cases will recover, as a rule, under careful nursing, while malignant cases are most inevitably fatal. But cases of average severity, we believe, may be favorably influenced by judicious treatment. During the initial chill it has been the custom to put the feet in hot water in which mustard has been dissolved, and at the same time the whole patient is enveloped in a blanket. As a result we have free perspiration, and this is promoted by a hot drink, as tea, hot water, or infusion of orange leaves. Peach leaves would do as well, I suppose. Then the patient is placed in bed, covered with blankets, and in this condition is usually first seen by the physician. The propriety of this line of domestic treatment has not been condemned by the physicians. But it is rather a mistaken idea to smother the patient with covers, with the idea of sweating the disease somehow out of the body. A sheet and single blanket will be sufficient in most cases. Purgation is right at this period.

Calomel and castor-oil are usually employed, as the salines are excessive. Castor-oil is given by some in four-ounce doses, but two ounces is believed to be sufficient. The calomel and quinia recommended by Blair

may be better, as they can be administered in capsule. A favorite prescription recommended by Dr. White is one-half scruple each of calomel and sodium bicarbonate and 20 grains of quinia.

Unless the stomach is known to contain undigested food, there is no call for emetics. What is the use in giving purgatives? The general idea is that it is to rid the system of poison, and for this same reason intestinal antiseptics are given, as benzoin and naphthol. Sternberg prescribed a mixture that has been largely employed since its introduction in 1880:

℞ Sodii Bicarb.	grams 10	(gr. 150)
Hydrarg. Chlor. Cor.	grams .02	(gr. ⅓)
Aquæ Pur.	liter 1	(O 2)

The dose is 50 grams, or 1¾ ounces, given every hour. The reports from those who have employed this mixture is encouraging, and it has been used in this country, and Cuba and Brazil. The quantity of bicarbonate of soda may be increased, and also the bichloride. The employment of an alkali, such as sodium bicarbonate, must help in the intense acidity of the stomach and bowels that exists in this disease. The antiseptic properties of the bichloride are probably all absorbed in the stomach.

The remaining measures have for their objects the palliation of pain, the allaying of nervous symptoms, the relief of irritability, the reduction of hemorrhage—all symptomatic treatment. Cold applications to the head is one of the simple palliative methods. The best revulsives are dry cups and sinapisms. Blisters are condemned for fear of increasing renal congestion by their employment. Baths are not advisable, either warm or cold baths; they interfere with the patient's rest. But the patient may be sponged. The coal-tar products are used for the fever, headache and backache. Phenacetine is probably the safest of these. Opium and its salts were formerly used to relieve pain and produce sleep, but they are now little used for this purpose. Various febrifuges have been recommended by different practitioners; on account of the gastric irritability it is better to refrain from the use of all drugs unless they are distinctly indicated, and the drugs I have mentioned thus far have their use.

The regulation of the diet is as important as the administration of drugs. It has been customary, on account of the complete anemia, to give no food for the first four or five days. According to Finlay, this practice is not followed by bad results; but when there is such prostration, it is impossible to rid one's mind of the idea that food is needed. Milk may be given, either pure or containing lime water or sodium bicarbonate. A little broth may be given occasionally. Thirst may be relieved by water with bicarbonate of sodium, 1-1,000, in solution. Hypodermoclysis has been recommended and is well worthy of trial. Two or three quarts may be introduced under the skin in the course of twenty-four hours. I would certainly use it in yellow fever, if I had a chance, as I would in cholera. The system needs water, yet if it is poured into the stomach it will upset it.

The stage of remission and reaction requires the utmost skill in management. The strength must be supported in every possible way, except with solid foods; nothing but milk should be given for food. The stimulants used are generally whiskey, brandy, champagne or hock. Blair says in his experience the best was hock, Rhenish wine, and he says that the best was required or else it did harm; that if it is of good quality it is retained when everything else is rejected, and it is invariably enjoyed by the patients.

Two Spaniards employed a good mixture, which is the following:

Fluid Extract Coca	f℥ss
Brandy or Cognac	f℥ij
Infusion of Coffee	f℥iij

Dose: A tablespoonful every two hours.

The point is, the patient needs stimulation. Give it in any way you please. It seems to me the Rhenish wine is rather peculiar to give, because of its acidity; yet all the wines are acid.

For the control of hemorrhage ergot may be given hypodermically in quantities of twenty to forty drops, or chloride of iron. For control of hemorrhage from accessible regions one would resort to local astringent methods. For a great diminution or suppression of urine, dry cups, croton oil or other revulsants. Internally, caffeine and other diuretics may be administered. Sternberg has recommended the use of pilocarpine.

A strange thing is the wonderful way in which, after yellow fever, the organs regain their normal condition. The transition from the borders of the grave to almost the full enjoyment of health is remarkable. Among the dangers of convalescence, one of the greatest is from indiscretion in diet. The patient should be kept on milk, chicken broth, sago water, and other such bland substances, for several days.

CASE OF BRAIN TUMOR.*

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LAST July a very healthy looking young married woman in the early thirties was referred to me, chiefly on account of headache, the family physician thinking it might be the result of eye strain.

Examination of the external eye showed slight inequality of the pupils; the left pupil was larger than the right, a condition by the way which is not very uncommon even in health, but what was more significant was that it did not respond quite so well to light. Vision in the right eye was perfect: in the left eye it was $^{20}/_{30}$, which was easily brought to a standard by a weak glass.

She told me that she had been suffering from headache, diffused over the head, for several months; and she said she had a little twitching about her face, slight but perceptible; and her husband told me he thought there were times just preceding the twitching when she was on the verge of being unconscious, almost too brief to record it, but a little tendency to unconsciousness for an instant.

The ophthalmoscope showed the right eye normal. There was slight haziness, very indistinct and ill-defined, about the left optic nerve. I saw the lady half a dozen times perhaps, and expressed the opinion to the physician in attendance that there were many conditions to indicate disease of the central nervous system and that I did not believe glasses would do her any good. Specific treatment was tried, but without results. Bromides seemed to quiet the twitching muscles of the face more than anything else.

The next I heard of the patient she had been operated upon by a prominent rectal specialist of this city, because whenever she went to stool she had intense headache, and it was thought some treatment to her rectum

* Reported to the Louisville Clinical Society.

might relieve her. But this failed. My next knowledge of the case was that she was under treatment of her family physician, not the one by whose courtesy she came to me, and was being treated by electricity applied to her face.

Three or four weeks ago I was called to see her for an acute attack of pink eye. I visited the house and found her as healthy looking as she was last summer, and that means as healthy looking as any woman in Louisville. She had a rosy color, full face, she is well-built, and was bright and cheerful. But she said she still had headaches and that her left eye was in about the same condition it was last summer. I said to her that I wished she would come to my office as soon as the pink eye was better, and I would look at her eyes again. She came a few days later. I put her in the chair first to test her sight, and so far from the left eye being as it had been last summer she could not count fingers more than two feet away. The glass made no improvement in her vision. The left eye, therefore, was practically a blind eye. The right eye, and this is the interesting point, had perfect vision. She read almost all the line we call $^{20}/_{20}$ with the right eye and made no complaint about the eye. Examination with the ophthalmoscope showed that the left eye was in an advanced stage of optic nerve atrophy, and that the right eye had a marked choked disc, showing that there was increased intracranial pressure.

I think the diagnosis of brain tumor is almost a certainty, and the prognosis is of course bad. The physician under whose care she now is, treated her with antisyphilitics for a while, and he said he would give these remedies another trial, but there is nothing in the case barring these symptoms to suggest specific disease, and so far there has been no response to the treatment.

The case illustrates a good many points: First, the gradual insidious onset of brain disease, as I believe it undoubtedly is; how easy it is to overlook such symptoms, not only for a week or two, but for months. My suspicions were aroused at first as to the existence of brain disease, and I so reported to the family physician, telling him there was no use of her coming to see me as she did not need glasses. I sent her back to the family physician. The case went along and did not progress much, and the family felt more encouraged about her.

The second point in the case is that there was an optic neuritis of the left eye preceding by eight months involvement of the right eye, going on to atrophy, while the right eye still retains perfect sight.

The third point is that there is optic neuritis of the right eye with perfect vision. I have seen the same condition a number of times. It is one of the points that go to show that an oculist ought to look into the inside of the eye when glasses are prescribed, because I have had more than one case of this kind referred to me for fitting glasses, when it turned out to be central disease of the nervous system.

DISCUSSION.

Dr. Wm. Cheatham: I do not remember to have seen a case of optic nerve atrophy in a case of brain growth. Death usually takes place before the nerve atrophies; there is usually choked disc-pappillitis. Outside of this the history looks like a typical case of brain tumor.

Dr. M. F. Coomes: This case is a remarkable one so far as its progress is concerned. My experience has been like that of Dr. Cheatham; where there is brain tumor the patient usually dies suddenly, rarely ever reaching the stage of atrophy of the optic nerve.

I saw a case a year ago in which a man went about all summer complaining of headaches, and finally got so he could not see very well. The family physician supposed he was suffering from a bilious attack and prescribed accordingly. He had an attack of vomiting, and later became stupid; they sent for me and I found typical choked disc of both sides. He was dead in a week.

Dr. Easley (New Albany): I should like to know if therewas any mental obliquity or any ataxic symptoms in this case?

Dr. S. G. Dabney: The course of brain tumors is sometimes an exceedingly irregular one. This is evidently a tumor of slow growth. That, however, is not uncommon. My own experience is like that of Doctors Cheatham and Coomes, these patients seldom have atrophy of the optic nerve. In some of the cases I have seen death has not ensued quickly; some patients live a long time with brain tumors.

Another feature that might have been commented upon was the decided difference in time and in duration of involvement of the two optic nerves. The rule is that both nerves became involved about the same time. In this case there was an interval of several months between involvement of the left and right optic nerves.

In regard to Dr. Easley's question, which is one of importance, and a point that I should have mentioned in reporting the case: The physician who had this case in charge had abundant opportunity to observe the patient; he told me there had been a great change, not so much in mental ability as in dispostion. The woman had become morose, silent, more irritable than she had ever been previously. This might depend upon headache, pain, etc., but evidently there was some disturbance of the disposition beyond that generally caused by pain.

It is hard to conceive of anything except brain tumor that would produce optic neuritis, choked disc, twitching of the muscles of the face, momentary unconsciousness, (no ataxic symptoms), that would persist over a year, resisting all treatment, headaches increasing in severity, etc. I believe increased pressure within the cranium from a tumor is the cause of these symptoms. Operation on the rectum had no effect. It is hard to conceive that it could be anything but some growth in the brain with increased pressure in the cranial cavity. There have been no symptoms of meningeal disease and no signs of any inflammatory trouble. She is well nourished and her history is otherwise good. The urine has been examined several times, and found normal.

TWO CASES OF SECONDARY HEMORRHAGE*

BY EWING MARSHALL, M.D., LOUISVILLE, KY.

SOME time ago I reported to this society that I had never seen a case of secondary hemorrhage, and in the paper read at the time I said that I had been brought up in medicine with that bugbear hanging over me, that I had never met with a case of secondary hemorrhage and rather doubted the possibility of its occurrence. But during this month I have met with two cases; one was a head injury, the other was an injury to the forearm, and both cases occurred within twelve hours.

The head injury occurred in the person of a young man who was drunk and fell down a flight of stairs,

*Reported to the Louisville Clinical Society.

lacerating his scalp. The scalp was carefully shaved, and the wound stitched together; the stitches were removed on the fifth day, and only partial healing had taken place. A few hours afterward a message was received from his sister that his head was bleeding. I supposed it did not amount to anything, and told him to come out to my office on the street car. There was some bleeding, and I increased the pressure by putting on a fresh bandage and sent him away; he got part of the way home and became frightened at the continued flow of blood, got off the car and telephoned from a drug store for me to come at once. When I reached him I found blood was flowing freely. I tried pressure for several hours but could not control the hemorrhage, so I turned out the clot and stitched the wound over again. He had no further trouble after that.

The next morning after seeing the first case I was called to attend a man whose left forearm had been badly lacerated by a circular saw. The muscles were very much torn and I concluded that amputation was the best treatment, which was followed, the wound being carefully stitched, and I thought, of course, a perfect result would be secured. When I started to remove the stitches on the fifth day, I found that practically no adhesion had taken place, and I only removed a few of the stitches, leaving the balance, hoping delay in removing the remaining stitches might give a better result. The wound was put in the best condition possible, the edges brought together with a pad over it, and bandaged tightly. The next day I was called to the hospital in a great hurry, the message being that the patient was bleeding. After trying pressure from bandaging for forty-eight hours and finding I could not control the hemorrhage satisfactorily, I stitched the wound the second time and healing took place, hemorrhage being controlled. In both these cases the hemorrhage was checked and healing took place after the second stitching; after first stitching the wounds practically no union resulted, and in both cases there was considerable secondary hemorrhage.

The explanation of the secondary hemorrhage to me in both these cases was the vitiated condition of the patients. The first was a drinking man in bad condition, and the other was a man who had been living in the lowlands around Frankfort, Kentucky, and was full of malaria, and the blood that he had was of a poor quality.

DISCUSSION.

Dr. W. H. Wathen: After a vaginal hysterectomy, the patient not having bled any for nine days, suddenly, without any apparent cause, began to bleed profusely. In another case of vaginal hysterectomy profuse secondary hemorrhage resulted from sloughing of an artery. I remember another case where after removal of a tumor there was intense secondary hemorrhage for two weeks, requiring constant compresses of gauze to prevent it. About a year ago I amputated the neck of the uterus, and in doing so cut the cervical artery, and included it into the suture. About a week afterward I was called at 3 o'clock in the morning and found the woman bleeding profusely from that artery.

In vaginal surgery secondary hemorrhage from sloughing of an artery is not unusual. Secondary hemorrhage from sloughing of an artery, however, is very unusual in intra-abdominal work where you have properly ligated the structures.

Dr. J. W. Irwin: Five weeks ago I was called to see a young woman who was lying in a state of unconsciousness. The history was that she and her sister had a quarrel that day, that her sister had knocked her down and afterward jumped on her abdomen with her shoes and wounded the abdomen until she had made five or six black spots, one near the transverse colon, one near the region of the bladder, one to the left of the umbilicus, etc. She was suffering a great deal of pain. She had hemorrhage from the bowel and also from the bladder. I relieved her suffering by means of anodynes. Since then she has had serious hemorrhages from the bladder and bowel—secondary hemorrhages. There was no way to get at it unless abdominal section was done, and I did not consider this justifiable. She developed five abscesses at various points in the abdomen, which have since discharged pus and blood. She has bled from the bowels at intervals. The bowels are not obstructed, as they act under the influence of castor oil or mild laxatives, but when she ceases taking medicines to act on her bowels peristalsis is reversed and she vomits fecal matter.

She will go on vomiting fecal matter until she takes the next cathartic. She is lying now at the point of death, wasted very much, and her recovery is doubtful. The peculiar thing about the case is just as soon as anodynes cease to have any effect, or we do not give her castor oil to move the bowels, then peristalsis is reversed and she not only vomits the contents of the stomach, but fecal matter.

Dr. George W. Griffiths: In a very large experience in emergency surgery, all sorts of amputations, accidents, wounds in railroad collisions, etc., etc., I have never seen a case of secondary hemorrhage, but have seen a number of cases where the hemorrhage was not promptly checked.

Dr. Irvin Abell: I have seen two or three cases of secondary hemorrhage. It is stated that 99 per cent. of these cases are due to some kind of infection.

Dr. W. H. Wathen: As an evidence that we may have secondary hemorrhage from vessels in different parts of the body, we may take for instance following abdominal work, and the records are abundant to show it, that some days and sometimes weeks after there has been no hemorrhage, in cases where there is no septic infection, suddenly there is profuse hemorrhage from some artery that has suddenly given away. The coagulum has been forced out or sloughed off and hemorrhage results. There is no question that secondary hemorrhage may occur under certain conditions of the system where possibly coagulation may be interfered with by some local or general condition which prevents normal and continued coagulation of the blood. While it is rare that we have secondary hemorrhage following ligation of vessels or following the control of hemorrhage by compression or by any means, it is certainly so well demonstrated that secondary hemorrhage does occur without infection that we are compelled to recognize it as a fact.

Dr. E. Marshall: In talking with a lecturer on surgery in one of our colleges, he said he had had a similar experience; that last winter he stated to his class that he had never seen a case of secondary hemorrhage, but this session he had to go back on his record, as he had seen one or two such cases.

In the head case I reported it is probable there was some suppuration because a vessel had opened. In the arm case subsequent to the secondary hemorrhage there was some infection and evidence of suppuration, but none prior to that.

—Dr. Ella E. Summers, a young woman of twenty-six, and a graduate of an Omaha medical college, was recently appointed coroner of Franklin County, Nebraska. Her uncle was the former incumbent.

PROBLEMS IN TREATMENT.

BY DR. M. HEINEBERG.

CASE I.—*Chorea treated with and without medicine.*

Two children were chosen, each seven years of age, exhibiting about the same degree of choreic movements and being about equally robust. These children were admitted to the hospital during the spring of 1900, with the following results:

The child now before us was treated by absolute rest in bed and Fowler's solution, the other child, rest and simply comp. tr. cardamom. Both cases progressed nicely on these lines of treatment and were discharged, cured, in about eight weeks. On November 22, 1900, the one now before us returned to the hospital with all the manifestation of another attack of chorea. Nothing further being heard from the other child (treated with tr. card. comp.), it is supposed that she has made a complete recovery; accordingly it was decided to treat this child as the other had been treated. Absolute rest in bed and dram doses of comp. tr. cardamon three times a day were inaugurated, under which treatment the case progressed nicely until the Christmas holidays, when the excitement attendant upon the preparations for celebrating the same had a very decided deleterious effect upon the child and the symptoms became aggravated. A change in treatment was consequently deemed advisable and 3 min. doses of Fowler's solution, three times a day, have been given since about December 25th; a steady improvement of the child's condition has been noted, and at present the nervous twitchings of the extremities, especially the left, are hardly perceptible.

We deduce from the above that while rest and quietude are essential factors in the treatment of chorea, in themselves they have not accomplished a cure, and that we must fall back to the line of treatment long since recognized as the one giving the best results in the administration of arsenic.

Case II.—One almost typical of valvular heart lesions subsequent to acute rheumatic fever.

The very marked pallor and pinched expression of the lad here presented would give one the impression that for one so young, fourteen years, he had undergone quite a good deal of suffering and that the effects of the lesion has been most disastrous. His family history reveals nothing, father and mother both living and well.

Up to four years ago he had been perfectly healthy. At that time he suffered with a severe attack of acute rheumatic fever, from which he apparently made a fair recovery. In May, 1897, he began to notice that on exertion he suffered with shortness of breath, which became so extreme and coupled with frequent epistaxis as to cause him to seek aid at the hospital, to which he was promptly admitted. It may be of interest to note here a fact not found in all the text books, that epistaxis is sometimes a prominent symptom of valvular disease, especially mitral insufficiency. It is allied to the hemoptysis occurring in such conditions and undoutbedly arises from the venous congestion. Bearing this in mind should influence us to make a thorough examination of the heart in those cases suffering from frequent epistaxis, which do or do not yield to local treatment, particularly if there be a previous history of acute rheumatic fever. He was treated for four weeks and discharged as greatly benefited. Since then he has had occasional attacks of epistaxis and dyspnea.

About five days before his admission to the hospital a few days ago he complained of abdominal cramps, headache, a troublesome, irritating cough which aggravated greatly, precordial pain of a sharp character; he complained of no articular pain. The epistaxis was more severe and it should have been stated that the cough was productive, the sputum being mucoid and blood tinged. The bowels were constipated.

An examination on admission brought out the signs of valvular disease; a quick pulse, water hammer in character, and a quite distinct capillary pulse; auscultation elicitated unmistakable signs of double mitral and double aortic disease.

The precordial pain and distress were symptoms of a co-existing pericaditis, of which diagnosis was readily made by a distinct friction sound, a systolic dimpling in the fourth intercostal space anteriorly, and the marked movement of the chest in the sixth, seventh, and eighth intercostal spaces in the subscapular region (Broadvent's sign), clearly showing the extensive adhesion of the pericardium to adjacent structures.

A blood count showed a moderate leucocytosis, 18,000 white cells. Subsequent counts show a gradual decreasing leucocytosis.

The temperature has been intermittent, on only two occasions rising to 101° F.

This case illustrates that class of valvular disease in which compensation has at no time since the initial attack been complete.

The absence of articular involvement since the first attack and the prominence of the bronchial symptoms, clearly demonstrate that subsequent attacks of valvular disease are not dependent upon renewed, acute articular involvement, but are often ushered in by the throat and bronchial symptoms.

The treatment has been along general lines; absolute rest in bed; for the slight fever potassium citrate (also for its diuretic effect); that quantity of opium which rendered the patient in a condition of light somnolence has been given to mask the pain, anxiety and excitement, conditions leading to over action of the heart. The application of blisters is not to be commended, their use being marked by no relief of the pain or distress, and the discomfort they produce has a subsequent disquieting effect upon the patient. Leeches in some cases prove of quite some benefit, relieving the congestion; which, if not severe, can be combated by the application of an ice bag intermittently, it having also a sedative action on the heart and precordial pain. The diet has been light, nutritious and dry.

The Treatment of Catarrhal Colds.—Since no efficient method of prophylaxis has thus far been described, the treatment for la grippe must be largely expectant and supporting, in severe cases symptomatic.

Of paramount importance is absolute rest in bed. "If choice must be made between rest in bed, minus therapeutics, and therapeutics minus rest in bed, therapeutics would be dispensed with." (Wilson.)

The patient in bed, attention to the diet should be given; the feding should be systematic; beware of overfeeding; diet should consist of light broth, 4-6 ounces at a time (one must be warned against the concentrated beef essences, which have a tendency to produce diarrhea); raw eggs and milk, seasoned if necessary; white of egg and wine: wine jelly, and cooling drinks.

Of drugs avoid all depressants; aconite or veratrum viride are not to enter in the treatment during any stage of the disease.

An initial purgation should be instituted, calomel in 5 or 10 grain doses, or in smaller fractional doses, followed by salines in a few hours.

In that form of the disease in which the nervous symptoms predominate (severe post orbital headache, neu-

ralgia, severe myalgia, etc.), the synthetics, phenacetine, acetanilid, etc., in doses of 3-5 grains combined with quinine 1-3 grs., are useful. In severe cases, however, preference is given to Dover's powder, 2-3 grs. every two or three hours until a condition of somnolence, from which the patient can be easily aroused.

Local applications, either hot or cold, to the head or chest are of more disadvantage than useful, the frequent arousing of the patient for their administration making them objectionable. Better combat the pain as above recommended by Dover's powder.

When the thoracic symptoms are the most distressing, they are best relieved by the administration of Dover's powder as above described; the synthetics can be used in the beginning to combat the headache and myalgia, but should not be continued, as their effect is too depressing.

Should the coryza be painful, local applications of cocaine, or eucaine in solution or ointment, prove of much benefit. Later, in the thoracic form, if it be desirable to produce expectoration, ammonium chloride, terpin hydrate or heroin ($^1/_{12}$-$^1/_{24}$ gr.), will generally be efficient. The giving of heroin should be done cautiously and the patient kept under observation; it often produces untoward effects.

If the cough is a distressing symptom, before defervescence, in addition to the Dover's powder, steam laden with tr. benzoin comp. or terebene often produces a quieting effect.

The cardiac form requires our closest observation and care. In this form rest is of supreme importance, and stimulation with alcohol, aromatic spirit of ammonia, digitalis (or some other cardiac stimulant, should be instituted at once and quantity given for effect.

Sleeplessness should be combated with trional, and if cautiously used, chloral hydrate will be very efficient. Should the latter drug be decided upon a strict watch over the patient is the duty of the physician; its depressing effect counteracted with alcohol.

The after treatment of "grip" heart consists in systematic feeding and exercise, and the persistent administration of strychnine.

When gastro-intestinal symptoms are severe the treatment should consist in a strict, regulated diet, and the diarrhea combated with opium and cannabis indica (⅛-¼ grs. of ext.). The intestinal antiseptics salol, salicin, sod. salicylate, sometimes prove beneficial.

Antipyretic as *such* should not be employed; should the nervous symptoms attendant upon a high temperature be severe, a cold sponge should be the antipyretic.

Defervescence and convalescence should be treated with tonics, strychnine, quinine, iron hypophosphites, cod liver oil, etc.

The treatment of complications should be along general lines.

—Quite a dilemma was produced a little while ago on the western circuit by the introduction of the word "dry-nurse" in an address to the court. This bewildered the judge, who asked if a dry-nurse was a nurse who dried babies after they had been washed. That solution did not occur to the learned counsel, who, after some hesitation, said he thought it meant a nurse who was not addicted to drinking. Nobody seemed to know what the term really meant, though several more guesses were made, the last of them that a dry-nurse was one who could not amuse children.

GENU-VALGUM: NEPHRECTOMY.*

BY J. R. WATHEN, A.B., M.D.,

Professor of Pathology and Clinical Professor of Gynecology in Kentucky School of Medicine; Visiting Surgeon to Louisville City Hospital and Kentucky School of Medicine Hospital.

CASE I.—The two X-ray pictures which I exhibit illustrate a case of aggravated genu-valgum in a child four years of age. This is a condition which not infrequently follows rickets. You will observe in the first picture the leg is turned out quite a distance from normal, and the X-ray shows the curvature of the tibia and fibula. The second picture, taken seven weeks after the operation, shows the corrected limb, it having been completely straightened, and it also shows the fracture of the bone.

This was corrected by osteotomy, the open operation, and sub-cutaneous fracture of the fibula. I present the two X-ray plates in order to show you the exact condition before and after treatment.

Case II.—The second case is a large tumor of the kidney, removed last Saturday from a woman thirty-five years of age. The tumor reached from under the diaphragm down to the crest of the ilium on that side.

Not knowing exactly what it was I made an exploratory incision and found a greatly enlarged kidney, which was removed, and which contained a quart and a half of fluid. Just what the condition is I am in doubt, whether it is a pyonephrosis, hydronephrosis, or cystic kidney. I could find no stone or other obstruction in the ureter, although it was traced nearly down to the bladder. The ureter, as soon as it left the pelvis of the kidney, became very small and perfectly normal, and the cortex of the kidney is practically of normal thickness. The kidney is very large, and was at least a foot in length when removed. Whether the trouble started as a hydronephrosis from some obstruction, later on stimulating this growth of the kidney substance, whether it is cystic or malignant I do not know. I have made no sections of the cortex of the kidney to see whether it would show any degenerative changes; but there is one very significant point, it is not the type known as surgical kidney, where you have the fibrous structure of the kidney on the stretch.

The fluid removed from the kidney contained a few pus cells, a great deal of albumen and some streptococci. It resembled the fluid found in ordinary ovarian cysts.

The other kidney was normal and the patient secreted sixteen ounces of urine the day after the kidney was removed, and the fourth day after the operation, without any elevation of temperature or acceleration of pulse she died from suppression, the other kidney seeming to refuse to secrete any more urine.

DISCUSSION.

Dr. T. P. Satterwhite: The operation in the first case was a very successful one and the case is interesting on that account. I have seen many operations for conditions of this kind, but none more successful than this.

Dr. W. F. Boggess: The result in the first case only goes to show the importance of correcting these rickety deformities in early life, and what can be done to cure them. It strikes me how much better such an operation is after the hard bone of post-rickets has formed than the old, tedious method of bracing the legs back by apparatus, which entails great suffering to the child. The

*Reported to the Louisville Clinical Society.

operation which Doctor Wathen performed is thoroughly rational and gives every advantage of possible success, and while the great majority of these children are among the poorer classes, and in the negro race, it is all the more reason why we should try to give them strong and reliable limbs. Much good can be done by such an operation.

Dr. Irvin Abell: I do not know what the pathology is in the second case. I do not believe it is cystic disease of the kidney, because the pelvis is not dilated as we would expect to find it in that condition.

Dr. F. W. Samuel: The doctor is to be congratulated upon his success in correcting the curved tibia.

I do not see anything left of the kidney in the second case except a large sac. It seems to be one large sac with evidence of its having contained fluid. Fenger has recently written an interesting article on cysto-nephrosis. In those cases where there is a pyocystonephrosis where part of the kidney has been destroyed by inflammation he cuts into the kidney and each one of the partitions between the cavities is divided until he comes to the pelvis; then he introduces an instrument into the ureter until he finds the obstruction. In this way he drains the kidney thoroughly and leaves more or less kidney substance which goes on and does fairly good work. There was probably an ascending obstruction in this case. I believe the doctor did the proper operation, as no kidney substance was left; but conservatism is now the rule.

Dr. J. R. Wathen: The second case was presented more for diagnosis than anything else. If it had been a simple case of hydronephrosis there would not have been so much kidney substance; the kidney would not have grown to such an enormous size. It looks as if the kidney had been stimulated to active growth. There is no multilocular cystic element.

If obstruction occurred it must have been early and probably caused a cicatrix of the ureter, thus closing off the upper part of the canal, as we have not the dilated ureter so often found in this condition.

In this case I removed the kidney. I believe the future will show that we are making mistakes in doing this. We ought to go in behind instead of in front, and drain the kidney. There seems to be great shock from removing the kidney, just as there is from removing the testicle. At the last German Congress several cases were reported where great shock had attended removal of the kidney.

Dr. W. H. Wathen and myself have operated upon a great many cases of removable kidney and the mortality has been extremely low. All these cases do well, and why a fatality should result from removing the kidney I do not know. Authorities seem not to agree in regard to that. Why this high mortality exists we do not know; it must be due to shock.

I believe it would be advisable in all cases where possible to practice drainage and leave as much of the kidney structure as we can. If I had to operate again upon a similar case I believe I would attempt to drain the kidney as stated.

—According to the *New York Medical Journal*, the Health Department of Watertown, in this State, has placed on exhibition a man suffering from smallpox, the Health Department taking that remarkable method to convince sceptical physicians and others that the cases of smallpox in town are actually that disease. The man afflicted was placed on a couch before a large window at his home, which faces directly upon the sidewalk.

CONSTIPATION.*

BY M. O. TERRY, M.D.

IN opening the discussion as to the cause of constipation, I will begin by stating that it must be too evident to any thinking person that it cannot be one factor only in our intestinal physiology, but that the causes must be many.

The first and most important as a cause we prefer to consider as being one of neglected or vitiated physiology. It is believed that the machinery of man was properly constructed so that the organs naturally work in harmony if the brain or motive power of the individual insists systematically that they should. A simple illustration showing the peculiarity of our make-up is that of the appetite. It is perfectly natural to desire breakfast, to feel that we need a dinner and to long for our supper after a hard day's work. If an individual has been taught properly in his youth to regard with as much regularity and observance that the débris of our product of metamorphosed tissue is disposed of as systematically as his meals should be served he is pretty sure to enjoy the best of health. Just as soon, however, as he defers until a convenient season, which may be an afternoon two days hence, or, as in two cases in my experience, for thirty-eight and forty days, respectively, there can be but one conclusion as to that person's future bodily condition; it must be a wreck; for there is scarcely an organ in the body which will not be affected sooner or later functionally or organically. And if it will not be considered a digression from the subject under discussion, I will here declare, with all the emphasis within my power, that more than nine-tenths of the cases of appendicitis are due to constipation and neglect of this important systematic process of our physiological life.

The statement made by most surgeons or physicians who have given the subject attention that appendicitis is caused by the coma bacillus, or any other form of microscopical life capable of producing ptomain poisoning, causing inflammation, leading on to suppuration and septic poisoning, in my observation is absurd and unworthy of serious consideration.

My experience in treating appendicitis, in line with this statement, namely, to relieve the alimentary track most thoroughly, to lubricate the irritated intestines, congested, and, in some cases, inflamed by the unhealthy products of decomposition incident to the débris of the canal, has been sufficient to warrant this statement. I have no confidence in any physician, whatever may be his school, who thinks that he can apply a remedy to relieve the pain of appendicitis which has not in view results which my previous statements have brought to your notice.

The question of diet is a most important one, as is also exercise. No absolute diet can be laid down for all cases, as idiosyncrasies are to be always considered. Water in sufficient quantity, fruit, the cereals with cream, proper exercise, such as has been taught in school, carried out systematically, deep breathing and a few calisthenic movements, with which you are all familiar—not forgetting massage—should remove from everyone that malady, which, by some, ever demands that old pill box of ancient practice, or the cathartic waters of modern times.

Lastly, a case of chronic constipation may have existed for so long a time as to cause a permanent contraction of the sphincter as well as dilatation of the low-

* Discussion on Constipation before the American Institute of Homeopathy, held at Richfield Springs, June, 1901.

er bowel. This might demand a stretching of the muscle, or in a diseased hemorrhodial condition, wherein the peripheral nerve fibers, in connection with diseased hemorrhoidal tissue exists, an operation by excision of the diseased tissues.

ANEMONIN.

BY PROF. WILLIAM F. WAUGH, A.M., M.D., CHICAGO, ILL.

ANEMONIN, $C_{10}H_8O_4$, crystallizes in rhombic crystals and needles, heavier than water. There is little taste to it at first, but burning later, this lasting some days. Volatilized by heat, the vapor causes a violent, piercing sensation on the tongue, leaving where it touches numb white spots. The eyes and nose are irritated. It decomposes in air and in drying. It is found in many species of anemone (Ranunculus). It is obtained from anemone pulsatilla, by distillation with water vapor. It is insoluble in cold water, sparingly soluble in boiling water and in ether, more in cold alcohol, easily in hot alcohol and in chloroform. It is dissolved readily in alkalies, passing into anemonic acid, $C_{15}H_{14}O_7$.

Anemonin was discovered by Heyer in 1779.

Van Renterghem gives the following process for isolating anemonin: Prepare a very concentrated infusion of anemone in distilled water, and leave to itself for many weeks. It deposits a white substance, that is to be purified by crystallizations in alcohol. This gives an anemonin white, crystalline, neutral, non-volatile, but evaporating at 150 degrees.

Brunton says that anemonin causes local inflammation and gangrene sometimes when injected subcutaneously, and vomiting and purging when given by the stomach. It depresses the circulation, respiration and spinal cord, the effects somewhat resembling those of aconitine. The symptoms are slow, weak pulse, slow respiration, coldness, paralysis beginning with the legs and extending to the arms, dyspnea, and death without convulsions. Poisoning by pulsatilla is always attended with convulsions, their absence being due to the paralysis by anemonin of the cerebral motor centers, and the possible presence in the herb of another convulsant principle.

Van Renterghem found that it required doses of 0.01 (gr. ⅙) every hour for fifteen hours to produce cognizable effects. These were light prodromes of dyspepsia, anorexia, the sensation of a foreign body in the esophagus that could not be passed on to the stomach; all disappearing by the following morning. The stools were normal, one or two daily, the subject being usually constipated. A single dose of 0.05 (gr. ⅚) produced similar effects. He concludes that in these doses anemonin is not irritant to the stomach or bowels.

Ellingwood states that pulsatilla in toxic doses produces mental hebetude, dilated pupils, coma; it lowers the pulse, vascular tension and heart-force, and causes convulsions. It depresses sensation and motion. In small doses it stimulates the cerebral functions and tones the sympathetic, increases cardiac power, slowing the rapid weak pulse of nervous prostration.

Anemonin has been given in amenorrhea, dysmenorrhea, bronchitis and other catarrhs, and in asthma (Brunton).

Borchain recommends it in acute epididymitis. Shapter found it useful in hysteric convulsions, and in reflex uterine spasms.

Phillips speaks of it as useful in mental disorders, and in sudden suppression of the menstrual or the lochial flow.

Bovet considers it a decided sedative in dysmenorrhea.

Ellingwood gives as specific indications for this agent, amenorrhea with mental perturbation and apprehension, spermatorrhea with fear, when genital maladies cause great anxiety. The homeopathists appear to give it whenever the patient is in apprehension of coming disaster. Anemonin gives strength and tone to the reproductive organs, regulating their action, in the absence of acute hyperemia or inflammation. When this mental state is present during pregnancy, with general lack of tone, anemonin is beneficial; also, in nervous exhaustion, nervous headache; the constipation, enuresis and dysuria of hysteria and pregnancy; urinary irregularities of pregnancy with ammoniacal urine, pain, tenesmus, catarrh, burning or shooting pains; in leucorrhea with pain in the loins, debility, depression, anorexia and general nervousness; in eruptive fevers, especially measles with excessive mucous irritation.

Scudder gives as specific indications for this remedy: Patient nervous and depressed, cries easily, pulse small and frequent, but soft; extremities cold; menses tardy and scant; patient then uneasy and depressed, with fulness and weakness in hips and back. It stimulates the mind and the automatic ganglia. Heart symptoms due to apprehension give way to pulsatilla. It relieves the nervous symptoms of the menopause, especially when associated with feeble nutrition.

Webster credits pulsatilla with a favorable influence over diseased synovial membranes, and suggests its use in crural phlebitis, varicocele, ophthalmia, earache of children (applied locally), "black eye," purpura, and tinnitus aurium.

Merrell adds to these indications that of gastric distress after rich greasy food, gastro-intestinal catarrhs, wandering rheumatic pains, urticaria and styes.

As the active agents in pulsatilla are volatile, it is not surprising that preparations made from the dried plant should have proved "inert."

Van Renterghem lists the following affections as benefited by anemonin: Corneal leucoma and albugo, retinal anesthesia, commencing cataract, amblyopia, amaurosis, especially in arthritics or with functional abdominal disorders, when anemonin may be given alone or with strychnine; commencing atrophy of the optic nerve. In these ocular affections anemonin may be used locally and internally. Paraplegias relieved by anemonin, by Seidler and others, were probably peripheric and diathetic. Clarus reported good results in bronchitis, influenza and whooping-cough, rebellious and irritant cough. Storck advised it to allay inveterate rheumatismal pains, and Von Schroff found it useful in chronic exanthems, serpiginous and syphilitic ulcers.

Merck gives the dose of anemonin as 0.015-0.05 (gr. ¼-¾), twice daily; maximum daily dose, 0.2 (gr. 3).

Van Renterghem advised doses of 0.001-0.01 every hour. These doses should be continued until the physiologic effect is produced, as shown by beginning nausea or abdominal irritation, or by the pulse falling to the normal frequency and force; unless relief of the symptoms for which the anemonin is given occurs previously. In general, relief and the beginning of tangible effects will be found to occur coincidently.

—A blind student was graduated with honors a few days ago at a medical college in Chicago. Aided by his highly developed senses of hearing and feeling, he hopes to become a successful specialist in the treatment of ills that have to be diagnosed partly by sound and touch.

THE CLINIQUE.

EPITHELIOMA AFFECTING THE LEFT SIDE OF LOWER LIP.

E. L., male, white, married, thirty-five years of age. There is nothing in personal or family history that is of interest. He denies any specific history.

His present trouble became evident to him about two months ago, when he noticed a small pimple on left side of lower lip. This pimple became gradually larger and more annoying. It exudes a small quantity of a thin fluid, and is slightly elevated on surface of hip. A scab has never formed, but the surface is covered at times by a whitish scum which is very soft. It is ordinarily not painful except upon pressure.

The edges of the ulcer are irregular and the base has a smooth grayish color.

The patient has not lost in weight, his appetite is good, bowels are irregular.

Urine contains small quantity of uric acid crystals, amorphous urates, squamous epithelial cells, and a few leucocytes.

The fact that the patient did not notice the condition prior to two months ago does not argue that the epithelioma did not exist prior to that time. In fact it is impossible to say just how long the process of development was going on before the patient noticed the pimple.

In almost every case of epithelioma of the lip the cervical lymphatics are involved. And the fact that in past years the large percentage of recurrences of the disease in cases operated upon argues that although there may have been no signs of lymphatic involvement, yet the recurrence was due to such involvement.

These facts have led to more extensive operation for the conditions, and removal of the lymphatics near by.

The old operation for epithelioma of the lip was to remove a V shaped portion of the lip, and not remove the lymphatics unless they showed positive signs of involvement.

This operation always resulted in more or less deformity of the mouth, from the nature of the wound, but as before stated was considered a sufficient procedure ordinarily.

Instead of removing a V shaped portion of the lip we now do the operation invented by Dr. Grant, of Denver; that is, to make three incisions at right angles to each other, the edge of the lip forming one side of a rectangle or square. This square or rectangular portion of the lip is entirely removed; then two incisions are made, one from each of the lower corners of the square, obliquely outward and downward. Then the continuity of the lower lip is re-established by bringing the two ends in apposition and suturing.

In suturing these incisions the old hair lip sutures are not employed. We first suture the membrane with silk, in order to prevent the edges of the mucous membrane from turning into the interior of the wound; then the tissues external to this may be sutured with silk, silk worm gut, or silver wire, the silver wire being preferable from the fact that it is antiseptic, and will prevent stitch abscess. This comprises the first part of the operation. But the removal of the lymphatics under the chin, in the region of the submaxillary gland and possibly those glands in the region of the posterior belly of digastric muscle is of the utmost importance. Furthermore, if the superficial cervical lymphatic glands show advanced involvement then it is imperative to go deeper and remove the glands surrounding the common carotid artery and int. jug. vein.

To illustrate, the professor made mention of two cases which were operated upon by him, one in which there could be no glandular involvement ascertained from the surface, but upon examination, after making incision in inframaxillary region and exposing the lymphatic glands, they were found to be distinctly nodular, that is, positively involved. These glands were removed and the disease has not returned.

In the other case, the cervical lymphatic glands did not appear to be involved upon being felt, but were removed and examined microscopically, which examination proved them to be certainly involved.

In this part of the operation the incision is made from about one-half inch below the symphysis of the lower jaw to the angle of the jaw, and parallel with the lower border of the jaw. The incision is made as deep as the mylo hyoid, the submaxillary gland is exposed, and the lymphatic glands are removed from this region. And if necessary enlarge incision and remove glands from the large vessels.

This same principle of removing contiguous glands is made use of in operation for removal of the breast, in cases of carcinoma, where the lymphatic glands of the axillary space are removed on account of their almost constant involvement in such cases.

A SUBACUTE ATTACK OF PLEURISY FOLLOWING AN ACUTE ATTACK.

THE case brought before us is that of a man forty-eight years of age, a native of Germany, and by occupation an engineer—both locomotive and stationary. He complains of shortness of breath and pain on the left side. Upon his admission to the hospital his temperature was 98° F., soon rising to 99° F., and it has since risen to between 99° F. and 96.4° F. This low temperature, associated with an acute febrile condition, always leads us to suspect influenza, but as we have not examined his sputum, we cannot diagnose his ailment as such. He had smallpox and the usual diseases of childhood, and five weeks ago he had pleurisy, with a large effusion, so that his present trouble is probably a subacute condition of an acuter one. At that time he was aspirated. On admission, a physical examination of the patient was made, resulting in the finding of an area of flatness on the left side. A day or two later an area of dulness with bronchial breathing was found on the right side below the apex, but this has been cleared up.

On physical examination we find flatness anteriorly on the left side in the fifth interspace, but at Trambe's semilunar space we got stomach tympany. Posteriorly flatness begins at the second interspace, below the angle of the scapula, and runs to the eighth interspace.

In auscultating the chest one uses the stethoscope and the ear, the latter separated by a towel from actual contact with the chest, just as one does the high and low power of a microscope; that is, the ear is used for the purpose of getting a general idea of the sounds to be heard within the chest, while with the stethoscope we master the finer details of auscultation.

On auscultating the chest posteriorly we are enabled to hear almost, if not entirely, normal breathing, and as the voice is transmitted, we judge that the pleural effusion has been absorbed. Tactile fremitus, however, is slightly diminished posteriorly, giving us reason to believe that there is still a small quantity of fluid remaining in the left pleura.

Palpation of his apex beat shows it to be situated in the sixth interspace, extending to the anterior border of the axillary space. Thus enlargement of pulsation denotes one of three conditions: Either an enlarged heart, a displaced heart, or a pericardial effusion.

Auscultation of the patient's heart shows the rhythm to be irregular and also gives us a harsh, blowing murmur, systolic in time, although it is neither very loud nor very intense. At the apex the action of the heart is jerky and there is a distinct intermission after every third beat. At this point the murmur begins to disappear, and is again heard over the xyphoid cartilage, at which point one feels the impact of the heart against the stethoscope, rather than hears the sound of the heart. However, on close listening the murmur can still be detected. On the right side of the sternum there is a diffuse murmur, and the second sound cannot be heard.

Percussion on the right side of the chest gives us no increase of the heart dulness upward, but rather an emphysematous condition. Below, the cardiac area is enlarged over the same area over which we noted pulsation. The systolic murmur already referred to becomes wiped out upon pressure with the stethoscope. There is nothing in this murmur of a frictional quality, and it does not become intensified as the stethoscope is moved about, nor do we get it in the axilla or back. On the patient's admission, a musical, high-pitched systolic murmur, transmitted into the axilla, was heard at the apex, but this is all gone. Five days ago a friction rub along the outer border of cardiac impulse could be heard, it being intensified with the respiratory rhythm.

Two years ago tubercle bacilli were found in this man's sputum, but an examination now shows no signs of it, although the man has blowing, bronchial breathing on the right side, which might otherwise point to a phthisical consolidation. Over his right side posteriorly no râles were heard, but his breathing is good all over.

The man was purged with compound jalap powder, and he was given nitroglycerin and inhalations of oxygen, the latter for the period of half an hour three times a day.

The diagnosis of the man's condition is that he has pleural and pericardial effusions, which drag the heart over to the left and downward, interfering greatly with its action.

The treatment would be absolute rest, a blister over the heart, good feeding, and such drugs as strychnine, digitalis and nitroglycerin.

TREATMENT OF CARDIAC DROPSY.

MR. J., forty years of age, has been treated at home for a supposed cancer of the liver. As a last resort he appeared at the hospital for operation. When informed that something could be done he returned to his home to arrange personal matters, expecting to die within a few days.

The next day at the hospital his liver was found to be enormously congested, appearing much like a tumor. There was much edema, and the epigastrium was very prominent. At present there is some slight edema of the feet and the epigastrium is still very prominent. The liver reaches nearly to the umbilicus. Examination of the heart shows a weakness, with aortic and mitral disease with much enlargement. The right ventricle extends beyond the right border of the sternum, but has much decreased since he was admitted. The left heart still remains quite large, but has decreased somewhat. The diffuse, irregular apical impulse has become a regular, localized movement, keeping within the cardiac area. The apex beat is strong and vigorous, most marked at the outermost limit of the cardiac dulness, nor far inside the area as formerly. Under treatment, also, the tone of the left ventricle has recovered; the acute dilatation has been overcome. All this and the reduction of the dropsy has occurred with ten days of treatment.

When admitted he was cyanotic, decidedly blue. Venesection was practiced immediately. Ten ounces of blood were taken from the right arm and immediately the right heart decreased in size and he became comfortable. In a few days he became worse, dyspneic and uneasy. Then sixteen ounces more of blood were taken from the left arm. Pressure in the tissues and upon the heart were relieved. The condition of the heart improved and the dropsical fluids had a chance to be absorbed and discharged from the system. Bleeding is a powerful stimulant to homogenesis, so the amount of lost blood is quickly recovered although the blood is diluted for a while.

Digitalis was given to overcome the general venestasis. Diuretics are indicated, caffeine being the best in this case. To give hypodermically, the preferable method in this case, the compound benzoate of caffeine and sodium in doses of two to three or five grains, or caffeine and sodium salicylate may be employed. Sparteine, gr. ⅙ to ¼, may be given hypodermically, and may be repeated once or twice. Diuretin is very valuable in cardiac dropsy, but will produce severe headache and disturbances of digestion. It is used simply as a temporary adjuvant. Local counterirritation may be used in acute cases, especially in congestion. Dry or wet cups are often of great service, affecting reflexly the underlying organs.

EMPHYSEMA.

MR. A. R., fifty years of age, has been a stove moulder for several years. For the last thirty years he has been a hard worker in the stove works, doing heavy lifting at moulding. He was employed long hours and worked very hard. The room in which he worked was naturally very dusty and he was constantly inhaling dust particles. But he has had no tendency toward bronchitis, never having suffered with any attacks. He uses alcohol and tobacco moderately. He is married and has two living and healthy children, two others having died of unknown causes. Any family history obtainable has no bearing in this case. When a child he had measles and whooping cough; and before the war had an attack of typhoid fever. Seven years ago, while running to a fire, he experienced a sharp pain as if something gave way. This marked the appearance of a hernia, for which he afterward wore a truss. After the hernia appeared he was confined to bed for five weeks. When he finally arose from the bed the first symptoms of the present trouble were noticed; he had oncoming dyspnea. For seven years prior to 1883 he played a trombone, but it probably was not a cause of the disease of which he now complains. Seven years ago, when he left his bed after the hernial accident, he had an attack of dyspnea. The inhalation of any dust would choke him and aggravate the dyspnea. Two years later he had an attack similar to spasmodic croup. In the end of September another attack of this laryngismus stridulus appeared.

A slight cough developed accompanying the dyspnea. He lost no weight. While working he has been forced to stop occasionally to take breath, and at last, four weeks before being admitted to the hospital, was forced to give up work.

He was admitted to the hospital on the 27th of October. At that time he complained of dyspnea only. The examination at the present time, a month after being admitted to the hospital, is similar to one made when he first was seen. The chest shows good nourishment, and is muscular. The auto-posterior diameter is much increased, about equaling the transverse, giving the barrel-shape chest. Upon each side of the clavicle are deep depressions, and the supra-sternal notch is quite noticeable. The scapulæ are slightly prominent. The intercostal spaces are depressed posteriorly, especially upon the left side. During inspiration the intercostal spaces below the scapulæ are retracted—Little's sign. Breathing is markedly abdominal, there being only a slight movement of the chest walls. The rate of respiration is accelerated—about twenty per minute at present as compared with twenty-six when he was admitted. The pulse is proportionate to the breathing, varying from 72 to 90 per minute. The temperature is normal, more frequently slightly below than above the normal point. Cough is and has been absent. He has never been forced to cough, even upon exertion. Vocal fremitus is slightly less distinct to the palpating hand than the normal average. Percussion gives a resonant note anteriorly over the chest, slightly more clear on the right side. Over the upper half of the left side, anteriorly, may be heard dry, crackling râles, these being associated with good resonance. There is then only one condition to consider, the troublesome dyspnea.

The prognosis is unfavorable in the case as far as recovery is concerned, but his condition under favorable circumstances could be improved and he be made more comfortable. If possible he should live in a warm climate, passing a life without work and without worry.

Quiet should be maintained, to allow the lungs a chance to recover. Violent exercise, as running or heavy lifting, should be forbidden. The nutrition should be improved by good feeding. Strychnine in doses of a twentieth of a grain should be given. The patient should be seen and examined every week. The danger of contracting colds should be carefully avoided. External counter-irritation is valuable—of far more benefit than internal medication.

THE DIAGNOSIS OF SYPHILITIC EYE TROUBLE.

PATRICK G., age thirty-nine, single, a stationary fireman by occupation. He was admitted to the University of Pennsylvania Hospital December 29th last. His family history is negative, as his father died at eighty of old age, his mother of apoplexy, and he has four sisters and four brothers, all living and well. He had none of the usual diseases of childhood, and had never been sick until seventeen years ago, when he had pleurisy on the left side. He had gonorrhea once, and six years ago a chancre, which appeared nine or ten days after the exposure to contagion. For this latter trouble he was treated for three months, both locally and internally. Seventeen years ago some cement flew into his eyes and they were sore for a week, but did not trouble him afterward. Ten days ago he had dizziness and a sense of oppression in the head and general malaise. This condition lasted for a week. His eyes bothered him a little, not being able to see well out of his left eye, and on one occasion for a few seconds he had diplopia. He had symptoms of gastric disorder, such as a bad taste in the mouth, flatulence, belching, poor appetite, and bowels constipated. He slept well at night, but was nervous at times, and his memory was poor. For two weeks previous to coming into the hospital he had not worked. There is some itching of the scalp.

An examination of the left eye shows ptosis of that lid, external strabismus and the left eye-brow raised by an exaggerated contraction of the occipito-frontalis muscle on that side. This latter is an associated movement caused by the involuntary effort which the patient makes to raise the left eyelid. The left pupil is dilated and there is paralysis of most of the eye muscles, including the internal, inferior, and superior recti, the inferior oblique, the levator palpebri, the sphincter of the iris, and the ciliary muscle. Paralysis of the oculo-motor nerve would account for paralysis of all these muscles, so we conclude that the seat of the disease, whatever it is, is along the course of this nerve. The lesion must be between the superficial origin of the nerve and where it enters the sphenoidal fissure, that is, along its course.

We think of seven things that the lesion might be: Basilar meningitis, hemorrhage, embolus, tuberculosis, a neoplasm, neuritis, or a syphilitic tumor. It could not be meningitis, because in such a case he would have fever and headache, and the lesion would not be localized to such a small area. We exclude blood-clot, as there is no history of injury to his head, and as his arteries are not sclerosed, we can hardly think of rupture of an artery. Embolus is not to be thought of, as there is no valvular disease. Tuberculosis is to be excluded, as he is almost too old for tuberculosis of the brain, and there is no sign of it elsewhere in his system. Of the neoplasms, we might consider carcinoma and sarcoma. We can exclude the former, as the brain is a most unlikely seat for it, and it would necessitate a primary growth of carcinoma elsewhere, and this is absent. Sarcoma is unlikely on account of the patient's age and the absence of pressure symptoms. The lesion is probably syphilitic in character, as the base of the brain is a favorite seat for syphilitic gumma.

The patient has been under anti-specific treatment, and is improving. Five days ago his left upper eyelid was down over the lower lid, while now he can see quite well out of that eye.

Anesthesia in Labor.—Dr. A. H. Halberstadt, in writing of the advances in obstetrics during the last half century (*Jour. A. M. A.*, April 27) advocates the more general use of anesthesia for painful labor. He concludes that the parturient state is the only condition of the system during life in which anesthetics, judiciously administered, are entirely devoid of danger. That here its application is universal; no disease of heart or of lungs should forbid its use. In no instance has he seen narcosis of the child attributable to its use.

"The small quantity necessary to produce semi-narcosis or full narcosis, the absence of nausea, exhaustion or shock on the return of consciousness, the impossibility of nervous pertubations, the freedom from hemorrhage, the invariably rapid getting up, with the small percentage of still-born children, are facts which I believe to be axiomatic.

"By judicious administration of an anesthetic, you cannot possibly do harm to a woman in childbirth; nor can you fail to do her good. How few physicians would refuse an anesthetic to a man or woman requiring the lancing of a whitlow, the extraction of a tooth, the amputation of a breast or limb, or any of the ordinary major or minor operations in surgery, where danger to some extent always attends, and in which exists but a small amount of pain, from the shortness of duration, in comparison with that of an average labor, where statistics declare no danger under any administration can be apprehended from the anesthetic alone."

The Medical Times.

A MONTHLY JOURNAL

OF

Medicine, Surgery, and Collateral Sciences.

EDITORS:

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Communications should be addressed to the MEDICAL TIMES, 180 West Fifty-ninth Street, Central Park South.
Published on the first of each month.

Changes of standing advertisements and communications in regard to that department, should be addressed to the Advertising Manager, BENJ. LILLARD, 108 Fulton St., New York.

NEW YORK, AUGUST, 1901.

"To read without reflecting is like eating without digesting."—BURKE.

BRAIN ANATOMY INSTINCT.

BRAIN anatomy within the past decade has solved many a problem in the line of thought development and nerve action, throwing light upon the constitution of brain matter and the methods by which mind uses the intricate mechanism of nervous substance. Among the most important discoveries are those of Professor Raymon y Cajal, of Spain, for which he was awarded the prize of the International Medical Congress of Paris last August. This prize was established by the city of Moscow in honor of the holding of the Twelfth International Congress in that city, and is conferred once in three years upon the man whose work in scientific medicine is decided to be the most helpful and suggestive to the medical profession, of any discovery during that period. Professor Cajal showed that the principal element in brain tissue was nerve cells and that each cell was a distinct entity. Its branches touched, but were not continuous with branches from other cells. A series of nerve cells follow, one after the other, from the central nervous system out to the skin. The branch end of these nerve cells touched each other at certain points. Along their course the nerve fibers were insulated from each other. At the ends, however, insulation was lacking and nervous impulses found their way from one cell to another at the terminal contact point. Professor Waldeyer, of Berlin, gave the name of neurons to these nerve cells and their branches, and the neuron theory of the constitution of the nervous system has generally been adopted by nerve anatomists.

Professor Cajal pointed out that between the true nerve cells there were certain other connecting and supporting cells, which, under the influence of the will, contract and expand, inserting their prolongations between the branches of contiguous nerve cells, and so prevent the contact of cells necessary for conduction.

It will be readily seen that Professor Cajal's discovery makes certain phenomena of mind, sensation, and consciousness, which were incomprehensible, easily understood. There are between the brain, the physical basis of consciousness, and external surfaces whence sensation comes, a series of nerve cells or neurons. When these contract or fall off from contact with each other all consciousness of sensation is lost. Thus, in sleep the cell is supposed to contract, as it would also be likely to do in concussion of the brain, the conducting apparatus being interrupted by the shock. The effects of anesthesia and hysterical conditions illustrate the truth of the theory; the neurons in stages of excitement making unanticipated and unintended connections. Every one has experienced at times a lapse of memory in which a name, a word, or a sentence would for a time be entirely lost, so that no effort of the will could recall it. This may continue for hours or even days, when, without any apparent effort the word is recalled clearly and distinctly as ever.

If, as is shown by Professor Cajal, the neurons can make or break connection, the explanation is simple. The neurons, for the time being, owing to some cause not clear to us are not connected; in other words, they are switched off as in the central telephone office, and until they are connected no effort of our will can open the line. Much of the phenomena of mental disturbance can also be traced to disease or failure of correct connections of the neurons. The higher intellectual memory, wishing to recall a melody, probably by calling to its aid the physical basis of memory, remakes the combination of neurons which originally conducted the notes. This doctrine of neurons, aside from solving important problems of physiological psychology, will be likely to cast light upon mind reading, telepathy, and hypnotic influences, hitherto so difficult of solution. Professor Crooks says, "If we accept the theory that the brain is composed of separate elements, nerve cells, then we must presume that each of these components, like every other bit of matter, has its moments of vibration, and will, under suitable conditions, be affected; as, for instance, the nerve cells of the retina by vibration in the ether. "If another neuron, situated not far away, should acquire the same moment of vibration, there seems no good reason why they should not materially affect each other through the ether." Only specially constructed brains, however, possess the faculty of responding to these etheric vibrations that pass unnoticed by the generality of men. Of course many of these deductions from the researches of Cajal and others are theories only, but they seem to be established on a reasonable basis of anatomical and psychological fact. Notwithstanding the light which has been cast upon the phenomena of life and mental action by the chemist, the microscope, the anatomist, and spectrum analysis, it is still involved in an impenetrable mystery. If we could reason from a purely spiritual stand-

point, as from a material one, however etherial, we might fathom the mystery of instinct, reason, soul, and even God. Haeckel, the German agnostic, notwithstanding his high position as a scientist, in an attempt to solve the question which has for ages puzzled the minds of metaphysicians and philosophers, in his recent work, "The Riddle of the Universe," has lamentably failed. Tracing the various forms of vegetable and animal life from the lower to the higher plane, he recognizes in instinct the action of chemical forces, all there is of soul, and asserts that neither in man nor in animals is there an immortal soul able to live without its mortal investments. The definition given of soul is at least peculiar, and will hardly satisfy a logical mind. He says, "What we call the soul is, in my opinion, a natural phenomena."

The Greek word *phainomenon* is an appearance (appearing); certainly the soul does not appear.

A phenomenon is generally the effect of a cause. If there is no soul, how can there be a phenomenon?

The logic deduced from his facts in biology, which are not always facts, are often as inconclusive as his definition of soul. We are so accustomed to reason from our conception of matter that we often misinterpret and misunderstand terms, attaching to them a meaning according to our own ideas. We speak of a personal God, and yet think of Him as omniscient, omnipotent, everywhere present, filling the universe. How can He be a person then, as we understand a person, an individual outside of His works, creating and controlling everything by His personal power?

Would not a more intelligent conception of God be the spirit of life, existing wherever life exists, as much a part of every living organization as the cell is a part of the plant, the animal, or the human body? If God is a personal God does not the person embrace the universe, suns and planets being simply cells, and every atom and molecule part of the mighty whole?

Reasoning from the same premises, may not instinct be this spirit of life which we call God, acting upon particles of matter, gathering them together into distinct forms; and may not *reason* be the action of the soul—the life, God—upon brain cells, with force and power in unison with the developing cell. When this soul is sufficiently developed to form a personality of the strength of an individual existence, instead of going back to the great soul of the universe—God—may not that separate existence be eternal, personal, yet a part of a harmonious whole?

YELLOW FEVER.

MAJOR GORGAS, of the Army Medical Department, who is the chief sanitary officer on Gen. Wood's staff, says that June commenced for the first time in many years without a single case of yellow fever, the last one being on May 7. There has been but one death from the fever since March 1, and that occurred on the 15th of March.

The exceptionally good condition of the city of Havana and surrounding country, Major Gorgas believes, is due in a great part to the efficient action which has been taken for the destruction of mosquitoes. The suburbs and the small streams have been thoroughly cleaned, and pools have been oiled and drained. An order has been issued prohibiting the keeping of standing water within the city limits, unless made mosquito proof. This order is being rigidly enforced, and all standing water found not protected is emptied and the owner fined. What has been accomplished in Havana, it is evident by the same process, can be done in other pestilentai regions, and the yellow fever and so-called malarial diseases, in a great measure cease to exist.

In a recent issue of the TIMES we stated that a reward had been given by the Mexican government to Dr. Felipe Caldas, of Rio Grande de Sul, Brazil, for discoveries made in yellow fever, after the successful effects of his work had been carefully noted by government experts of Vera Cruz. Since that time Dr. Caldas, with his associate, Dr. Ballanzagi, have, as they think, perfected the vaccine by means of which they are able to immune persons who have never had yellow fever and who may be liable to infection. They have recently referred to Gen. Sternberg requesting him to submit it to a fair test that it may have the official sanction of the United State. Dr. Caldas claims he can inoculate a battalion of soldiers who are to be stationed in a fever-stricken country with vaccine and not one of them would take the fever even if he should be predisposed to the disease, and the person vaccinated would be immune for all time.

They desire to test the matter fully, when opportunity may arise, in the presence of a committee appointed from the medical staff of the army and navy of the United States, with such other scientists as may desire to take part in the experiment.

A COMPARISON of the fatality of the summer heat of last June with the grip epidemic of last January shows the deaths from the effects of the heat to be much greater. The deaths reported from grip during four days was 36 and those from heat during four days in June, 52. On July 1 there were 78 deaths from heat and 96 prostrations. The most fatal cases and those most quickly and severely prostrated were those who had been accustomed to a greater or less extent to alcoholic stimulants.

—In rectal examinations, to prevent fecal matter settling between nail and skin, where it is so hard of removal, proceed as follows: After lubricating the finger with plain castile soap, scrape the nail on a piece of said soap so that a quantity of same enters the subungual space; after examining the rectum it will be found that no fecal matter has entered the space under the nail, and the finger can easily be made clean.

A TEMPERANCE ASSOCIATION VS. PROFESSOR ATWATER.

THE American Medical Temperance Association at its recent meeting adopted the following preamble and resolutions:

"WHEREAS, the American Medical Temperance Association, the members of which are physicians and medical teachers who have devoted years to the study of alcohol and its effects, and who are conversant with the work done by scientific men the world over to determine the effects of alcohol when given in any quantity, have noted the teaching of Professor W. O. Atwater, of Wesleyan University, upon the food and medical value of alcohol as set forth by him in the pages of the influential lay press, be it

"Resolved: That this association utterly repudiates the pro-alcoholic doctrine of the said Professor W. O. Atwater as being contrary to the evidence deduced by scientific experimentation, and that his conclusions are unwarranted by the evidence resulting from his own experiments. Be it further

"Resolved: That this association regards the teaching of Professor W. O. Atwater as erroneous, and a source of danger to the laity, insomuch as such teaching contributes towards the increased consumption of alcoholic beverages by giving supposed reason for their safe use."

THE BABIES' HOSPITAL.

THE trustees of the Babies' Hospital in Lexington avenue are about to erect a seven-story stone and brick building on the site of the old institution, to cost ninety thousand dollars. The first story will be devoted to the clinics and dispensary; the fourth, fifth, and sixth stories to wards, and the seventh story will contain a laboratory, isolating wards, and solarium. The laundry and kitchen are placed in the basement, as is also the ventilating plan.

BELLEVUE HOSPITAL.

An effort is being made by the Board of Charities, seconded by the Commissioner of Charity, to obtain an appropriation of two million dollars to rebuild Bellevue Hospital, either on the present site or in some other location. This improvement to our city hospitals is very much needed, as the present hospital buildings are the oldest in the city and lack those facilities for successful work which modern science has made imperative.

Dr. Henry L. Elsner, President of the Medical Society of the State of New York, announces the appointment of his Business Committee for the ensuing year, consisting of Dr. Nathan Jacobson, chairman, 430 S. Salina street, Syracuse, Dr. George Ryerson Fowler, 301 DeKalb avenue, Brooklyn, and Dr. William C. Krauss, 371 Delaware avenue, Buffalo. All letters and inquiries pertaining to papers and scientific communications for the semi-annual meeting to be held in New York City, October 15th and 16th, 1901, and the annual meeting, to be held in Albany, January, 1902, should be addressed to the chairman.

BIBLIOGRAPHICAL.

ETIDORPHA, OR THE END OF THE EARTH. The strange History of a Mysterious Being and the Account of a Remarkable Journey. By John Uri Lloyd. Eleventh edition, revised and enlarged. Dodd, Mead & Co., New York.

The very marked success of "Stringtown on the Pike" created such a popularity as to demand the re-publication of a previous work. Etidorpha is a scientific fiction. The story is told with all the charm of the novelist, and the scientific facts are brought out so clearly that one seems to witness the solving of some of the great and most difficult problems of Nature. The reader, under an "adept" guide, is taken to the center of the earth, not from the North Pole, through Captain Sim's Hole, or down the crater of an extinct volcano in Iceland with Verne, but through a cave in Kentucky.

The learned, from the light which is thrown upon the laws of Nature, and the unlearned, from the thrilling adventures and fascinating style will both find it full of power and interest.

THE DISEASES OF THE RESPIRATORY ORGANS, ACUTE AND CHRONIC. Arranged in two parts and interleaved for supplemental notes. By William F. Waugh, A.M., M.D., Professor of Practice and Clinical Medicine, Illinois Medical College, etc. The Clinic Publishing Co., Chicago, 1901, pp. 96, 12mo. Price, $1.00.

This little volume is issued as a sample of the distinguished author's forthcoming treatise on the general subject of the practice of medicine. The subject is presented in a most condensed form for practical use, and its pathology is of the latest modern variety. The therapeutic part is rich in new remedies and new uses of old ones, all of which have been carefully tested and verified by competent observers.

The text is classically written, in a most interesting manner, and the book should be in the hands of every general practitioner.

CORRESPONDENCE.

LONDON AND PARIS.

To the Editors of THE MEDICAL TIMES:

Perhaps I should be content and stick to my original plan, of writing up merely one or two of the universities visited, for the benefit of young post-graduates who still suffer from the "big city mania" when going to Europe, but I cannot resist giving a few observations on London and Paris and indulging in a few generalities. After a restful trip through the Bavarian Highlands, visiting Oberammergau and the fairy-like regions of Hohenschwanstein and Linderhof, the Austrian Tyrol, with its fair Innsbruck, surrounded by its snow-capped mountains, whose glittering beauty brought back faint memories of mountain-hemmed Mexico City, we passed into Switzerland, my brother's sketch-book and camera doing an artist's justice to the scenery, as shown by a recent number of *Harper's*, whilst I contented myself with inspecting the numerous resorts where fagged-out nerves and "tired" lungs can be restored; keeping an eye open for the numerous delightful little spots where people with limited purses can be benefited. After foot and coach tours through the "Romansch" in general, where a dialect of Latin, rather than Italian, is spoken by the lower classes, we visited the beautiful "Kur-Anstalten," and baths of St. Moritz—best "carbonic acid

water" of Switzerland. Those who cannot stand the greater elevation of St. Moritz in winter go to Davos; in this latter place we had occasion to observe many patients taking the celebrated "Liege-Kuren" for pulmonary tuberculosis—lying on their backs in the sun, on the spacious verandas. Those who cannot stand the expense of Davos and St. Mortiz will be well cared for in summer in neighboring klosters at the Kurhäuser Silvretta and Vereina. Here I met Dr. Hitz, nephew of the first Swiss representative at Washington, and a true physician.

Before leaving Switzerland I visited the University of Zürich, where Schlatter—of gastrectomy fame—is an instructor.

In Stuttgart, which has no medical school, I visited the Karl-Olga Hospital, cradle of the *cinnamic acid treatment* for tuberculosis. In the absence of Landerer, Von Phister extended the courtesies of the institution to me. The cases here treated are mostly bad ones. I saw numerous good results from the intravenous injection of hetol* (synthetic natron-cinnamic acid). Hetokresal they use in open tubercular wounds. In the rather uninviting small pavilions Countess Uxkill was working as a professional nurse. Though surgery is not a specialty at this institution, I had opportunity immediately on entering the building to see a colostomy nicely done by a young interne.

I called on Surgeon-General Burghardt in Stuttgart, also, and found him an exceptionally pleasant gentleman. He lives in a handsome Moorish palace, in which recreation is not out of place, I was immediately able to see, being directly ushered into the billiard-room. He immediately referred to a visit our Senn paid him in 1882. He has a very compactly scientific operating room, and one Sunday early, after driving out with him in practice, he visited a boy patient suffering from appendicitis, had him carried immediately to the hospital, and operated on him. The appendix not being safely removable, he merely evacuated the pus and irrigated with peroxide of hydrogen. I was quite surprised at the vigorous way in which he reprimanded the assistant, who had neglected to prepare the first case he wished to show me.

In Cannstatt, just outside of Stuttgart, is an interesting old institution—the Dermatological Sanatorium of Hofrat Veiel. It has a European reputation, and is about to pass to the third generation, having passed down from father to son. Veiel treated the elder brother of Alexander III. of Russia for a "chronic trouble."

To Paris I will but hurriedly refer, as, owing to the World's Fair having taken so many medical visitors to the Seine capital, I may, to say the least, be accused of supererogation.

The tomb of Pasteur, in the institute bearing his name, and the new Pasteur Institute nearby, endowed by Baron Hirsch, must be inspiring monuments to the French investigators. Madame Pasteur has a residence in the first Pasteur Institute; *she* seems to have no conscientious scruples as to living among "inoculation guinea-pigs!" How different from the time in Washington, scarce four years ago, when the ladies of the city were so incensed against the alleged "vivisectionists," owing to the escapades of a few young medical student scamps, that the novel spectacle was presented of urban police watching the Laboratory of the United States Bureau of Animal Industry, in which I was then working as a volunteer assistant, to see that Stiles or Hassall, or an assistant—well, his name I won't mention—put "tape-worms" into alcohol, according to the laws of humanity! Times have changed, and "volunteer assistants" can now even get pay as "student assistants!"

I visited all the hospitals of Paris, except one. The "housekeeping" in Paris hospitals did not, I thought, compare favorably with that of our American or of German or English institutions.

The nurses in Paris, while apparently sympathetic, lady-like and clever, did not have that bright, healthy look seen in most of our large New York institutions, and in London and Germany.

The Hospital Cochin, from which was recently issued that magnificent work, "Chirurgie du Rectum" (by Quenu and Hartmann), makes one wonder how so elegant a work could emanate from so inelegant a hospital! The number of chemicals present in the operating room point toward decided chemical antisepsis, compared with German asepsis. The attendant who showed me through told me the place was overrun with *rats*. The celebrated Salpetrière is not pleasant to visit, though the patients get plenty of wine to drink. The order and cleanliness in our New York Charity Hospitals is far superior. One is everywhere treated with the celebrated French courtesy. The incubators for prematurely born infants in the Maternité were liberally patronized—a questionable economy of human life when applied to the pauper element, *but* scientific!!

In England I first visited the London Hospital, and was very hospitably received by the House-Governor. A careful search through the fine Pathological Museum, with the aid of one of the assistants, *failed* to show even *one* case of *renal-artery entering* the *kidney* at the *lower end* of *its vertical axis, such as* I *deposited* a *specimen* of in the museum at the Metropolitan Hospital, New York, although Wiedersheim, in Freiburg, told me of at least seven reported cases.

In the operating room I had the good fortune and pleasure to meet Fenwick, who invited me to take tea with him, which, owing to pressure of time, I had to decline. He had a case of prostatic calculus, and, after severely questioning his interne's diagnosis and at last determining and removing the stone, paid a frank compliment to the young diagnostician! He apologized to me for not having work to show, it being Easter, and thereupon removed from a child a very slightly inflamed "kinked appendix," with the remark: "A little thing to cause that child so much trouble." It is a pleasure to a "globe-trotting M.D." to meet so pleasant a man as Harry Fenwick. Mr. Fernewell did a very pretty secondary intestinal anastomis to heal an abdominal fistula. The English operative technique impressed me as more elaborate than the German.

The "London" internes are a nice-looking, clean-cut set of young men. On the whole, the London hospitals, with their cheery open fires, make an impression of good English home comfort.

There was one thing that amused me very much at the London Hospital, nay more, excited my risibilities, and even aroused my pity. I was visiting, under the fraternal guidance of an old "London" graduate from Australia, the room devoted to the *ultra-violet-ray cure* for *lupus;* it was a nice "plant," of a sort of impromptu construction, however, and many cases of lupus were being treated. We were shown numerous cases of good cosmetic results in lupus of the face, neck, and arms—*i.e.*, the "decollété parts" of women. The patients being treated were nearly all women, and we were told that there is much lupus in London. So far, so good, but when we were told gravely "that this was the only insti-

* In the Charité in Berlin Menzer is extensively using hetol, as I had ample opportunity to observe under his personal supervision.

tution in the world," my mind reverted to several laboratories in Berlin; I thought of Finsen's "direct light cure" in Copenhagen; I thought of the birth-place of the X-ray in Würzburg, and I wondered whether these Britons had ever heard of New York, and left the room filled with compassion for British conceit!

"Where ignorance is bliss 'twere folly to be wise!"

The house-surgeon at Charing Cross I had a personal introduction to, and had a very pleasant visit. He immediately inquired about our Osler, which reminds me that Ziegler called him "your first clinician." I was surprised to hear this young Englishman praise German medical science, with the remark "They are ahead of us over there in *that*." I was surprised at the extreme simplicity of the Röntgen-Ray laboratory at Charing Cross, which reminded me of Treves's remark, "that the X-rays were spoiling the cultivation of palpation, etc."

At the children's Hospital they are quite pedantic in the technique of laryngeal intubation and claim good results even with the younger infants.

The London Homeopathic is a nice little institution. It has a beautiful reading room. Very noticeable here are the numerous pictures and the air of comfort and refinement in the place. The number and character of the patients, however, did not seem to offer much chance for study or research.

The operating room is small but modern.

Very truly yours,

OTTO SOMMER.

London, April 4, 1901.

ANALGESIA FROM THE SPINAL SUBARACHNOID INJECTION OF COCAINE.

In a paper presented to the Kentucky State Medical Society, May 23, 1901, Dr. J. Garland Sherrill says, in part, that: An ideal anesthetic agent, capable of producing oblivion to outside conditions and devoid of danger, will not be found, for a drug of such strength will of necessity be dangerous to life. Mention is made of the frequency of accidents under general anesthesia, which has resulted in the search for local anesthetic agents. Dr. J. Leonard Corning of New York in 1884-1885, first demonstrated the possibility of inserting cocaine into the cord. Prof. Bier of Kiel first used the method in a surgical way, while M. Tuffier of Paris has brought the subject prominently before the profession. A number of gentlemen in this country reported favorably upon its use. The author thinks that cocaine will scarcely displace general anesthesia, but that it has a considerable field of usefulness. He presents the dangers from the injection into the spinal canal as:

1. The shock of simple tapping of the cord and the injection of the cocaine. Seventeen fatalities collected by Gumprecht from different clinics are cited, in which death could be traced to no other cause than this simple tapping. In these cases disease of either the brain or cord was present, and it was possible also that the amount of fluid withdrawn was considerable. In health the removal of a small quantity seems to cause little shock.

2. The danger to the cord and centers in the medulla. Sicard has demonstrated that the toxicity of the cocaine increases as the injection is made higher in the cord. Depressive action upon the medullary centers is extremely unlikely to follow a small dose of the cocaine injected in the lumbar region of the cord (*cauda equina*). Nicolette, as the result of experimental research, maintains that there is no alteration of the anatomical structure as a result of these injections. The effect of cocaine on peripheral seems to affirm this statement, and to show that the danger of paralysis and late effect upon the cord is very remote. The danger of hemorrhage from puncture of a spinal vein is slight, yet a case is reported where such an accident has occurred (Heumberg).

3. The action of cocaine upon the heart. Injected into the spinal canal this drug should be no more dangerous or depressant to the heart than a similar dose in any part of the body. Dr. A. N. Phelps reports a case of death from the local (not spinal) injection of 30 minims of a 2 per cent. solution. Therefore, $^{6}/_{10}$ of a grain may be assumed to be the smallest fatal dose. The amount of cocaine should be limited to $^{3}/_{10}$ or $^{4}/_{10}$ of a grain, which amount of an active drug will produce complete analgesia of the parts below the diaphragm.

4. The immediate danger of infection through the puncture is rendered nil by proper aseptic precautions. The chief danger lies in the skin of the patient, which requires special preparation, as for any surgical operation. Carelessness in the technique may undoubtedly be productive of harm, and only those familiar with practical asepsis should attempt the procedure. There are, up to this date, no reports of infection from this source. Some annoying symptoms have been noted in different cases, but they are by no means constant or certain. Rapid heart, pallor, dizziness, perspiration, cyanosis, nausea, vomiting, and involuntary evacuations of the rectum have been noted during the analgesia. Nausea appears in about 30 per cent. of 803 cases, in which a full history is given, usually occurring within fifteen minutes after the injection, but in some cases not until the patient leaves the table. It is usually slight, lasting only a moment or two, and infrequently followed by vomiting. Headache appears with about the same frequency. Involuntary evacuations are to be prevented by emptying the intestine before the operation.

Arguments for the Method.—The contrast between the profound depression following general anesthesia and the normal smiling appearance of the patient operated upon under cocaine is very impressive. The author believes that the depression of the general anesthetic, combined with that of the operation, tends to reduce the resistance of the patient to later dangers, such as sepsis, suppression of urine, bronchitis, pneumonia, etc. The shock after major operations, done under spinal analgesia, is slight. Heart disease, dropsy, Bright's disease, bronchitis are conditions, even with our present knowledge, in which cocaine is preferable to general anesthesia. Old patients stand the cocaine method well, since there is less disturbance of the heart and lungs; less interference with the secretions and less shock. Operations upon the rectum and anus give a very favorable impression of the method. Some objections offered to the method are that the idiosyncrasy of certain individuals to the drug makes its action variable. This is to some extent true, but the percentage of failures to reach the canal and to obtain analgesia after injection is very small—37 in 1,534. The claim held by some, that the danger is greater than general anesthesia, does not seem to be borne out by the facts, 1,534 cases having been collected by the author with no deaths. P. Reclus states that he has collected over six deaths in Europe. In one of these (Gorlav) 15 cg. of cocaine had been injected and a leg amputated. A rapid rise of temperature and pulse followed and terminated in death in twenty-four hours. In another, reported by Juillard, death followed two days after hydrocele operation. In this case the autopsy showed a ruptured

aneurism of the sylvian artery. Cocaine may, by causing vascular constriction, have been a factor in hastening this rupture. Reclus has even tried to include Tuffier's case in deaths from cocaine, where acute edema of the lungs had been assigned as the cause of death. Heumberg had a death from spinal injection of cocaine, the autopsy disclosing a hemorrhage into the cauda equina. Dumont reported one occurring in a febrile, tubercular boy, two days after the injection, in which the autopsy showed no lesion. Reclus looked upon these six deaths to less than 2,000 cases as very discouraging. However, we must consider the probability of other causes for the deaths in these cases. In two of them no statement was made of the patient's condition prior to the death. In one of the others, a ruptured aneurism, on the day following the cocaine injection, was attributed to the spinal injection, which is out of all reason when we consider the transitory effect of cocaine. And why should we attribute the death in Dumont's case, occurring two days after the spinal injection, to cocaine just because no other cause could be found for the death? The only one which we can accept as proven to be due to the cocaine injection is the one reported by Heumberg. Folet reports a case in *Echo Medical* of death in progressive collapse after spinal cocainization. No analgesia was produced in this case, the operation having been performed two days later under chloroform. Too many conditions can contribute to the causation of death for this case to be accepted as a death from cocaine, without further data.

American reports show no fatalities due to the injection of cocaine into the spinal canal. The ages in which it has been used varies from two and one-half to eighty-four years. In children the fear of pain will prevent its frequent use. Old persons seem to stand it especially well. The scope of the operative analgesia is usually considered to be below the diaphragm, although Morton, of San Francisco, removed a two-pound tumor from the face without pain. He believes that rapid injection of the cocaine will increase the area of analgesia. Marx and others believe that the rapidity of injection in no way influences the extent of action. The length of analgesia varies, usually lasting an hour or more. Marx and Bainbridge have used more than one injection, if needed, to carry out indicated procedures. Some minutes should be allowed to elapse between the instillations, for fear of an overdose.

The technique needs only brief repetition here. The cocaine must be sterile. This is accomplished by the fractional method (80 to 30, repeated several times), or it can be shaken in ether and then dissolved in sterile water. A number of operators depend upon the sealed sterilized tubes. Tuffier describes three methods for sterilization. First, by heating to 120° C. in a sealed vessel in oil. This, he claims, does not decompose the drug, as the water of crystallization is retained during the process. Second, the fractional method previously mentioned, and, third, is filtration through porcelain filter. Vessels and fluids used in the preparation must previously be sterilized by heat; the use of bicarbonate of soda being avoided, as it decomposes the cocaine. A 2 per cent. solution seems to be uniformly the most satisfactory. The dosage should not exceed 25 minims, 15 to 20 minims being best, reduced for children according to age. A platinum needle, with short bevel, to prevent leakage, is preferable, although a similar steel needle can be used if rusting is prevented. The syringe may be of metal with a solid barrel, or of glass. Syringe and needle are sterilized by boiling. Greatest care should be given to sterilization of patient's back. Shave, scrub thoroughly with soap and water, wash with alcohol, and finally with solution of bichloride of mercury, 1-500. Using the fourth lumbar spine, which lies on a level with the crest of the ileum, as a guide, the injection is made in the space above or below the fourth spine, while the patient bends the spine strongly forward. The point should enter a very little to the left and below the spine, and should be directed forward and slightly inward and upward. The ligaments of the vertebræ offer slight obstruction to the needle, so that there is a sense of diminished resistance when the canal is reached, and simultaneously clear fluid will flow drop by drop. If it does not appear, suction on the needle will usually start it. The injection must only be made after the fluid is obtained. The amount allowed to escape should approximate the amount to be injected. The point of puncture is to be protected by collodion on sterile cotton. After the operation rest in recumbent position should be enforced. A number of substitutes have been proposed for cocaine, notably, antipyrine, eucaine and tropacocaine, none of which seem to act as well as cocaine.

As personal experience with cocaine, analgesia embraces twenty-seven cases, in one of which (a woman of 300 pounds) he failed to obtain the cerebrospinal fluid. In another the patient required a ℥iss of chloroform to quiet her. She afterwards admitted that she had insisted on the chloroform because she was afraid the operation might hurt her. The others gave the usual phenomena noted, two having nervous rigors. One of these, at a second operation by the same method, had no nervous phenomena at all. Several went through the operation without pain or discomfort of any kind, notably, a man of sixty-seven—amputation at the knee for diabetic gangrene. This patient died on the fourteenth day, of sepsis, the stump being infected. His temperature was 102° F. at time of operation. An examination of his cord, cauda equina, at point of puncture showed no pathological change, either macroscopically or microscopically, showing that there is no bad effect upon the cord.

The conclusions at which he has arrived from a close study of the situation are that cocaine analgesia will not likely prove satisfactory in operations above the level of the diaphragm; that it will perhaps not be much used in abdominal cases which are not clear and are likely to prove tedious or difficult; that its special field will be found in operations upon the lower extremity, including amputation and resections, and those of perineum, bladder and rectum; also, that it is at least useful in old persons and those suffering from diseases of the heart, lungs, or kidneys, from cirrhosis of the liver and from abdominal dropsy; that it can be successfully employed where a patient fears general anesthesia, and we certainly throw aside a valuable addition to our armamentarium if we neglect to use this method in the proper

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—The tetanus complications arising out of the diphtheria serum application at Milan are believed at the Pasteur Institute at Paris to be due to the serum having been taken from horses with dirty coats. The germ of tetanus is present in horse manure, and for this reason cyclists are prone to attacks of the disease, a fall in the roadway resulting in a slight bruise or scratch opening the way for the germ to be introduced into the system.

—It is rumored that the Sultan of Turkey lately shot dead a physician who, while attending him for ear complaint and massaging him, unwittingly caused His Majesty intense pain.

SOCIETY NOTES.

NEW YORK OBSTETRICAL SOCIETY.

Sarcoma of the Ovary.—Dr. Bache Emmet presented a specimen of a round-celled sarcoma of the ovary, which was interesting because of its size—that of a football. It was removed from a patient forty-nine years old, a multipara. In a recent study of malignant tumors of the ovary, made by Drs. Estor and Poech of Montpellier (France), they collected all the reported cases of the past thirty years, 372, only fifteen of which were reported in this country. Of this number quite a large proportion gave evidences of a return of the malignant growth within from three or four years.

Carcinoma of the Cecum.—Dr. B. H. Wells presented this specimen, a tumor of the cecum, near the ileocecal valve, which was removed, together with several inches of large and small intestine, glands and mesentery. The resection of the cecum and small intestine was done with the aid of O'Hara's forceps. The forceps were placed vertically on the intestine at a point where the section was to be made, carrying the tip down to the mesenteric border; a second pair is placed at the second point of section; the gut is then divided close to either forceps. The forceps are brought together and held by a small clamp, which holds the intestinal ends in apposition, so that the suturing can be done accurately, easily and quickly. There is little handling of the gut, and there need be no contamination of peritoneal surfaces by fecal contents. He had used the Murphy button, and other methods, but he considered this to be, if not the quickest, the safest and simplest.

The Prevention of Post-Operative Adhesions of the Peritoneum.—Dr. George G. Ward read a paper with this title, and gave, as a summary of the means of prevention which he advocates, the following: (1) The attainment of asepsis as perfect as is possible by the rigid adherence to the most modern methods of securing surgical cleanliness. (2) The avoidance of raw surfaces and pedicle stumps, by covering them with peritoneum, or grafts of omentum, and the abandonment of the ligature *en masse*. (3) Protection from dry air contact by the employment of moist asepsis instead of dry asepsis, and keeping the exposed parts covered whenever possible. (4) The time element—rapidity of operating by technical skill, thorough preparation, and trained assistants. (5) Keeping up the heat of the peritoneal cavity by frequent renewal of the hot salt solution (115° F.), and by protection of the exposed parts. (6) Avoidance of excessive manipulations of the intestines by technical skill, proper ante-operative preparation of the bowels and posture to prevent pseudo-ileus. (7) Replacement of the loops of intestine and omentum by filling the abdominal cavity with hot salt solution before closing, and thus floating them that they may more readily adjust themselves to their proper relations. (8) Free motion of the patient after the operation to be encouraged instead of prohibited. (9) Early use of the high enema during the first twelve hours, in conjunction with cathartics, and on failure the prompt use of oxygen in the exaggerated Trendelenburg posture.

ACADEMY OF MEDICINE.

SECTION ON MEDICINE.

Bacteriology of Acute and Chronic Pleurisy.—Dr. Alexander Lambert said that 30 or 40 per cent. of all primary effusions are known to result from tuberculosis. Syphilis is not a rare cause, and pneumococcus infection is common, the effusion often being purulent.

Early and Late Tapping in Pleurisy.—Dr. C. E. Nammack gave the following rules for guidance: (1) When life is directly threatened by asphyxia from compression or from cardiac weakness. (2) When the fluid has risen to the third interspace anteriorly, as such effusions rarely disappear spontaneously. (3) In all lesser effusions where spontaneous absorption is unduly delayed, resort to tapping. In a general way the rule may be laid down that when an effusion has remained stationary for more than a week, a portion should be removed by aspiration, as this will often of itself be a cause of the entire removal of the fluid.

The Use of Methylene Blue Injections in Pleurisy with Effusion.—Dr. C. H. Lewis had been led to devise this method of treatment, not only because he had learned that spontaneous absorption gave permanent results, but because it had occurred to him that if by the injection of some substance the formation of adhesions could be promoted, subsequent aspiration would effect a prompt cure. Methylene blue accomplishes this, and is an antiseptic, diuretic and anodyne. A certain quantity of the serum is withdrawn, mixed with 10 or 15 grains of the methylene blue, and this is returned to the pleural cavity. In twenty-three cases so treated the average duration of treatment was fourteen days.

SECTION ON OBSTETRICS AND GYNECOLOGY.

A Case of Pelvic Suppuration.—Dr. A. Brothers removed a tumor, the size of a small cocoanut, which consisted of a large ovarian abscess, with agglutinated pus attached to its upper surface. In the process of enucleation the ovarian abscess had ruptured and upwards of half a pint of greenish pus escaped. This was mopped out and peroxide of hydrogen poured into the abdominal cavity. One of the house staff, who examined the pus, reported that he found no gonococci or other microorganisms. It was a great temptation to incise and drain the abscess per vaginam, which would unquestionably have given her great relief, but would have left a pus sac and a purulent tube, etc. He felt that he was warranted in omitting both flushing of the cavity and drainage, for the following reasons: (1) Gonorrheal pus was conceded to be the least virulent form known; (2) the tumors were walled off from the general peritoneal cavity with sterile gauze pads before enucleation was attempted; (3) the table was lowered from the Trendelenburg position the instant the rupture occurred; (4) the free pus was mopped up as quickly as possible, and the tumor removed; (5) peroxide of hydrogen was poured into the wound to neutralize the possible septic effects of the pus; (6) the operator wore rubber gloves.

Pedunculated Fibroid of the Labia Majora.—Dr. Ladinski presented this specimen, removed from a patient over eighty years old. A search through the literature failed to show a single instance of fibroid of the labia recorded.

Present Technique in Operations for Repair of Complete and Incomplete Lacerations.—Dr. H. J. Boldt, after trying various methods, had returned to the flap-splitting operation revived by the late Dr. Lawson Tait. This was especially satisfactory because it avoided loss of tissue in the event of failure to secure primary union—Dr. Leroy Broun had been able to obtain as good anatomical results by the flap-splitting operation as by the Emmet operation. Dr. Emmet used one line of sutures, introducing these down to, but not through, the rectal mucous membrane. He thought it was an es-

sential point to pass the sutures through the rectal mucous membrane. Dr. J. Riddle Goffe, in operating upon incomplete lacerations, denuded the necessary area by beginning at the lateral caruncles, which enabled the operator to strike the line of cleavage. The first two sutures carried up the rectocele into the vagina, and the next suture, sweeping around widely in the tissues, caught the separated ends of the transverse perineal muscle. The sutures were tied on the rectal side and were expected to come away when the bowels first moved; they were only intended to secure good coaptation temporarily. The last two sutures took in the sphincter muscle. Dr. Ralph Waldo said that when the laceration was complete the operation was done for the purpose of curing the rectocele; when incomplete, for curing incontinence of feces.

THE PRACTITIONER'S SOCIETY.

Some Fallacies of Therapeutics.—Dr. George L. Peabody read a paper on this subject. The class of mixtures known as "tonics" and "bitters," which are largely consumed by the laity and to which is due the idea that bitters are tonics and appetizers, very generally contains a large percentage of alcohol. Almost all are sold as being "non-alcoholic," and several of them are boldly recommended as "soothing inducements to temperance," in doses of a wineglassful three "or more" times a day! He said there was a general fallacy in regard to the evil effects of alcohol upon the body. Men so often claim to be temperate in the use of alcohol because they "never were drunk in their lives." Investigation shows that they have been persistent and steady drinkers, but they believe they are temperate drinkers because they have never been drunk. The heart and arteries, and the tissues generally, care very little whether their owner gets drunk or not; what they do object to is the damaging effects of the alcohol upon them, without regard to the moral or social consequences of the indulgence.

Boric acid was extensively used internally for nearly a hundred and fifty years (1702 to 1847). It was supposed to be a potent sedative. Then it was thought to be a good antiseptic, but its power as such was found to be so little as to be of little value for practical purposes. Almost the only internal use that remains to it is due to its power of acidifying ammoniacal urine in cystitis.

Ergot is to-day given in pulmonary hemorrhage; yet it has been shown that ergot causes a rise in pressure in the arteries. There is no proof that ergot causes any contraction of pulmonary vessels. In spite of these facts, it is still recommended to arrest pulmonary hemorrhage by some of the best writers on practice.

Much false impression exists in regard to lithium. As a solvent in gout it is almost valueless when given even in reasonably large amounts. In regard to arsenic, there is a fallacy in the belief that a toxic dose which causes death must necessarily act as a preservative of the body; bodies so poisoned are especially prone to decomposition. Many fallacies exist in regard to mercury. Calomel is still given to stimulate the liver, whereas experience has shown that calomel is a hepatic sedative. Not very long ago mercurialization was resorted to in almost every protracted inflammation and fever. Now its field of usefulness is practically restricted to syphilis. Few drugs have been so recklessly given as iodide of potassium. It is misused in arthritis deformans, in gout, in pleurisy, pericarditis, peritonitis and meningitis, and all under the impression that it will aid in the absorption of exudations, both fluid and plastic. To remove hyperplastic connective-tissue growths in certain viscera it is still employed, without the slightest warrant. Except in syphilitic disease of certain organs it is wholly without effect. In chronic lead poisoning, although it is known that lead is eliminated by way of the intestines, iodide of potassium is given in the hope of causing elimination by the urine. Creosote and its allies are given internally by many, who think the good effect is due to its antagonism to the bacilli; yet it has positively been proven that it produces a good effect only by improving intestinal digestion.

WOMAN'S HOSPITAL SOCIETY.

Kraurosis Vulvæ.—Dr. George Tucker Harrison related a case of kraurosis vulvæ occurring in a woman of thirty-five years of age, married, who consulted him on account of narrowness of the vaginal introitus, a disagreeable tension of the skin in walking, and a burning sensation referable to the sexual parts. Ocular inspection showed that the parts were hard, stiff, striated, whitish, presenting the appearance of cicatrices. The vulva was narrowed. The clitoris and labia minora were completely wanting, and in place of the former was a hollow retraction. The introitus was greatly narrowed and very sensitive. The skin of the perineum and that surrounding the anus showed a striking formation of folds. The skin of the vulva was so brittle and dry that the simple handling, or attempting to introduce the finger in the vagina, was liable to evoke laceration of the vagina. Fat, sebaceous, and sweat glands, hairs, blood-vessels, and nerves had disappeared.

This disease was first described by Breisky in 1885 and was known under the term *kraurosis vulvæ*. His conjecture was that a hyperplasia preceded the atrophy. He found that the stratum mucosum of the epidermis had completely disappeared in some places, so that the horny layer was situated almost immediately on the corium. From his studies it seemed safe to assume that before the kraurosis manifested itself inflammatory injury may have preceded, which evoked a cellular hyperplasia; but the destructive processes must be regarded as trophic.

The only treatment that offers any relief is that suggested by Martin, consisting in excision of the diseased parts.

Trachelorrhaphy with Hemorrhage.—Dr. C. R. Hyde reported an unusual accident which happened during an operation. A trachelorrhaphy was performed, and, during the operation, forcible traction was made upon the uterus, as there was considerable hemorrhage. After making an abdominal section to suspend the uterus by the Kelly method, he examined the adnexa and found nothing wrong; but, as he was introducing the suspension sutures, he noticed a dark-colored mass under the left broad ligament near the pelvic brim; it was distinctly intraligamentous. He opened the broad ligament and turned out a recent clot. Two bleeding points were found and tied off. He accounted for this clot by the undue traction exerted upon the uterus, causing a rupture of some blood-vessel. He was reminded forcibly of the dictum of Dr. T. A. Emmet, to never make undue traction on the uterus more than was absolutely necessary.

BROOKLYN GYNECOLOGICAL SOCIETY.

The Modern Curriculum in Obstetrics.—Dr. Barton Cooke Hirst, Professor of Obstetrics, University of Pennsylvania, said that he took it as a great compliment to the institution which he had the honor to represent that he had been requested to describe a modern curriculum in obstetrics, for he understood that he was expected to describe the curriculum in use at present in the University of Pennsylvania.

He was somewhat dubious as to the wisdom of the committee's choice, but it may be at least interesting, if no instructive, for his audience to hear a description of the evolution of obstetrical teaching in the oldest medical school in America.

For the first fifty years obstetrics was taught by the professor of anatomy, but this unholy alliance was severed in the year 1810, when the first professor of obstetrics was elected to the faculty. Professor James taught obstetrics, in some respects, better than his successors, for there was more of the relationship of master and apprentices between him and his students. His successors, Dewees, Hodge, and Penrose, were obliged to teach large classes of students with a very scanty clinical material, or none at all. It was necessary for them, therefore, to adopt the didactic method of teaching altogether, which they carried to a high degree of excellence, but which was unaided by any practical demonstration. With the election of the present incumbent began the development of practical instruction in this department of medicine in the University of Pennsylvania.

The curriculum, as at present established, or, as it will be the coming year, may be briefly described as follows:

The instruction begins in the third year. In that year the class has one didactic lecture a week and one clinical demonstration a week. They have, in the first half of the year, one recitation a week from a quiz-master, and in the second half of the year, two recitations a week. The class is assigned in small sections of four each to cases in the University Maternity, which they are obliged to examine carefully from the time the patient enters the hospital until she and her infant leave, some two or three weeks after delivery. An elaborate record is kept of the cases, which is handed in as part of the student's examination. Each section gets at least two cases in the course of the year—the first under the supervision of a demonstrator, the second case alone, to be reviewed after the student's examination.

They had been gratified this year to find that no mistakes had been made in the second examination as to pelvic measurements, fetal positions, etc.

In the fourth year there is one clinical demonstration a week, at which the more advanced and difficult surgery of obstetrics is exhibited. Such things, for instance, as the removal of infected fibroid tumors by abdominal section in the puerperium, which is as much an obstetrical operation under those circumstances as the application of the forceps. All the injuries of childbirth are exhibited, and the various methods of repair demonstrated. Another hour a week is devoted to the instruction of small sections, of ten men each, in the more commonplace duties of obstetrical practice. Two students at a time are stationed on duty at the Southeastern Dispensary, in a poor part of the city, where they stay for half a week, during which time each man has from three to ten cases, of which he hands in a report at the end of the year as part of his examination. One hour a week is devoted to manikin instruction on the obstetrical operations, conducted by Dr. R. C. Norris and his assistants. They had for this purpose five Budin manikins and a large supply of dead fetuses. The class has one recitation a week with quiz-masters during the first half of the year, and two recitations a week during the last half.

—In variola, salol, it is said, abolishes all sense of irritation and desire to scratch. Maturation is usually prevented. Dose, 15 grains three times a day.

RETROSPECTIVE THERAPEUTICS.

The Use of Heat as a Means of Diagnosing the Presence of Pus.—According to Dr. K. Lewin of Berlin, the application of heat, while relieving pain resulting from simple acute inflammation, is found to have exactly the contrary effect when suppuration is present. Dr. Lewin has applied this observation to the solution of the question of the presence of pus in cases of appendicitis. In ten persons attacked by appendicitis where Dr. Lewin applied hot compresses for one or two hours, eight were greatly relieved, while two found their pains increased. In all the former group a spontaneous cure resulted in the course of two or three weeks, while in the others, after persistent trial of medical treatment without result, operative interference became necessary, and pus was found in both instances. The author considers that in applying the test it is important to use no other calmative means, and to keep from the patient its meaning, that the effect of the application may not be modified by any dread of an operation.

Petroleum Massage in Acute Articular Rheumatism.—Sarafidis in the *Revue de Therapeutique* for February 1, 1901, concludes that massage with petroleum is the best treatment for acute articular rheumatism for the following reasons: (1) The treatment is inexpensive. (2) It can be used as well in the country, far from a pharmacy, as in the city. (3) During the treatment the patient is not surfeited with drugs, as the petroleum is sufficient to cure the rheumatism. (4) The treatment by petroleum can be used by everybody, for it can never cause any trouble. (5) Its application lowers the temperature. (6) Petroleum can be used in those suffering from Bright's disease. It is well known that in the course of an interstitial nephritis it is not possible to administer salicylate of sodium. The same observation must be applied to pregnant women.

Lobelia as a Local Remedy in Stricture.—Dr. Boskowitz asserts in the *Hom. Recorder*, August 15, 1900, that lobelia will cure spasmodic stricture "as if by magic," and in permanent stricture where it is impossible to pass the smallest sound, the difficulty will be easily overcome after a single application of the drug. He drops into the urethra about 15 drops of lobelia, then closes the meatus and holds the lobelia in the urethra for a few minutes. He has constantly employed this treatment for several years in cases of stricture, and with uniform success.

The Surgical Treatment of Migraine.—Walter Whitehead, F.R.C.S., Edinburgh, in the *British Medical Journal*, February 9, 1901, describes how, during the last five and twenty years, he has never failed to treat successfully the most inveterate and severe cases of migraine by the introduction of an ordinary tape seton through the skin at the back of the neck. Patients who have had medical treatment without material benefit, and who have been in the habit of being completely prostrated by violent headache and sickness, have been completely cured. The modus operandi is as follows: The skin at the back of the neck is grasped between the finger and thumb of the left hand, and behind the fingers a long-beaded scalpel is forced so as to transfix the skin. Before the knife is removed a long probe provided with a suitable eye is passed through the wound, using the knife as a guide. The scalpel is then withdrawn. A piece of ordinary household tape, half an inch wide, is then attached by a ligature to the eye of the probe, and the probe pulled through the wound, bringing the tape with it. Four inches of tape are left free at each side, and these are gently tied together to

prevent the tape being accidentally withdrawn. Instructions are given to the patient to move the tape from side to side each day. The operation need only occupy half a minute, and nitrous oxide is all-sufficient as an anesthetic. The seton ought to be worn uninterruptedly for three months at least, in the first instance, and should the symptoms recur, a second seton ought to be introduced.

RETROSPECTIVE DIETETICS.

Insects Recommended for Food.—A French entomologist, M. Dagin, recommends insects as an article of food. He speaks with authority, having not only read through the whole literature of insect eating, but having himself tasted several hundreds of species raw, boiled, fried, broiled, roasted and hashed. He has even eaten spiders. However, he does not recommend them, but this may be prejudice on his part. He states two objections to spiders: They are not insects, and they live on animal food.

Cockroaches Are a Foundation for a Delicious Soup.—M. Dagin follows the recipe given by Senator Testelin in a speech delivered in the Senate on Feb. 12, 1878: "Pound your cockroaches in a mortar; put in a sieve, and pour in boiling water or beef stock." Connoisseurs prefer this to real bisque. M. Wilfrid de Fonvielle, the French scientist, prefers the cockroaches in the larval state. The perfect insect may be shelled and eaten like a shrimp; that way, Dr. Gastier, member of the National Assembly of 1848, used to eat them.

Caterpillars Are a Light Food of Easy Digestion.—Not only African and American native races, but Frenchmen appreciate them. M. De Lalande, astronomer, had dinner every Sunday with the zoölogist, Quatremére D'Isjonvalle. Madame D'Isjonvalle, who knew his taste, collected in the afternoon all the caterpillars she could find in her garden and served them on a plate to her guest. The most popular insect food is the locust. It is eaten fried, dried in the sun, ground in flour, broiled (among the Bedouins), boiled in milk (a Morocco recipe), or fried and served with rice as in Madagascar. The Jesuit Father Cambon thinks that locust flour might become popular in Europe as a condiment. Travelers' opinions on locusts differ. Amicis finds they taste like shrimps; Niebuhr, like sardines; Livingstone, like caviare.

Potatoes in Diabetes Mellitus.—A. Mosse (*Klin. Therap. Woch.*, Oct. 7, 1900) answers the mooted question as to whether potatoes should have a place in the dietary of the diabetic, in the affirmative, and cites two cases in which the wisdom of such addition to the fare was evidenced by a prompt decrease in the amount of sugar excreted in the urine. The potatoes should be given to the amount of from two to three pounds daily, as a substitute for the whole or a part of the bread allowed. The cases which seemed to respond best to such management are those of medium intensity and of the arthritic type.

To Cure Insomnia.—A very simple method of inducing sleep in cases of persistent insomnia, and one that has succeeded where many drugs have failed, is: Simply administer a moderate amount of liquid food before the patient goes to bed. This diverts the blood from the brain to the abdominal organs, and takes away the cerebral excitement that precludes sleep.

—Marriage of first cousins has been illegal in Pennsylvania since January 1st of this year, and all such marriages contracted in the State since that date are void.

HOSPITAL REPORTS.

Treatment of Rachitis.—We have here a boy of four and a half years; he comes from poor surroundings and suffers from rickets. Following the soft period of rickets is a rapid deposit of bony substance at about four or five years of age, which is intensely hard. Well-cared for children can have the right diet and have costly braces applied, and thus the deformity cured, but in children of the poor, and particularly in the colored race, we have to correct it in a forcible manner. This can sometimes be done by bending the leg and putting on a cast, then a little later bending some more.

Here there is a genu valgus. Most of the curvature is not in the femur, as used to be taught, but in the tibia and fibula. I shall cut these bones, and if the deformity is not entirely reduced on this side, on the other I may cut the femur. I shall not use the tourniquet, but have a sand pillow underneath. I shall send the bone chisel not all the way through, because there is a risk of cutting the blood-vessels, and a careless blow of the hammer may separate them. I prefer, as a rule, to cut pretty nearly through the bone and then break.

We rarely get a full correction of the deformity at the first dressing; we have to put on a succession of casts. The results are uniformly successful if there is no sepsis. An osteotome which is sharpened on both sides will tend to go through the bone better than the chisel which is sharpened on one side.

A Papilloma Undergoing Degeneration.—This woman has an ugly wart-like growth on the skin of the temple. It is hairy; it has been growing more rapidly in the last week—a papilloma undergoing degeneration. I shall cut it out, after the subcutaneous injection of cocaine, 1 per cent. I am afraid of cocaine as an anesthetic on account of its toxic effect, and am not willing to use more than fifty minims. With eucaine you can use about two times as much, and there is another drug nervanine, for which it is claimed you can use ten or fifteen times as much. I have not tried it. After using cocaine a good deal you become skilled in knowing how to place it to the best advantage. I always make it a rule that the patient must lie quiet for thirty minutes afterward, when cocaine has been injected. If they get up at once they art apt to faint.

Silkworm gut seems to be the least irritating suture for operation on the face. The wound had better be dressed with a gauze dressing first and after a white collodion used. If collodion is applied immediately it is apt to be floated off.

Cancer of the Liver.—Here is a magnificent specimen of cancer of the liver. In all probability you will never see a finer one in your life. Here the umbilication of the nodules is seen. The condition of the liver was recognized ante-mortem so far as size and shape was concerned, and the diagnosis of cancer was made out.

You know that cancer of the liver in a vast majority of cases is secondary, and it may be secondary to a primary cancer of the gall-bladder; and in these cases there seems to be a close connection with the presence of gall-stones in the bladder. An old theory as to the cause of cancer which is being reintroduced is that of the destruction of the basement membrane. I am glad that this theory is being supported by experiments on animals. I do not believe that micro-organisms have anything to do with cancer.

This liver weighed ten pounds and three ounces. The gall-bladder contained a number of calculi of small size. Whether there was any connection between the presence

of these and the cancer we cannot tell. There is no history of renal colic.

The present theory to account for the pain from gall-stones is that it is produced not by the passage of the stones but from the cholecystitis present. I must say I don't believe this; I can't believe it, because I have seen such frightful colic in cases where the discharge of stones was followed by relief and no return of the colic.

Anemia and Cardiac Disease.—Lillie Bostle, sixteen years old, was admitted September 16th. At that time her pulse was 142, temperature 100°, and respiration 40. Both parents are dead, a twin sister lived but five hours. At twelve she had scarlet fever, and the beginning of heart trouble, which dates from that time. Two years ago she had diphtheria. She first menstruated at twelve. The last three weeks she has had dyspnea and palpitation and orthopnea. She has been troubled with nausea and has been raising blood almost every morning. She complains of pulsation of the vessels of her head, and sleeps only the latter part of the night.

Physical examination states that her skin is pale, lemon colored, and conjunctiva pale. She has Hutchinson's teeth. Neither the spleen nor the liver are enlarged. There is no albumin nor sugar in the urine.

Blood examination reveals the hemaglobin to be 40 per cent. of the normal, the red corpuscles numbering 3,000,000 and the white 50,000. The differential count of the white corpuscles does not show a leukemic condition.

From the blood examination alone we would call this a case of chlorosis. The temperature fluctuates a little, the pulse is pretty steady at 100. She has chlorosis; and has also heart disease, a mitral stenosis with, I have little doubt, a button-hole contraction of the mitral valve.

There is a question whether her heart disease is responsible for the anemic condition. I should say not. She had scarlet fever at twelve, and menstruated also at that age, which is very early. That fact alone would indicate a tendency to chlorosis. I believe Niemeyer said he never knew the menses to begin at twelve with undeveloped breasts, without chlorosis making its appearance.

The heart disease with chlorosis renders the treatment more complicated. She has constipation also; and yesterday I heard over the apex of the left lung a crepitant rale exactly like the crepitant rale of pneumonia. The crepitation is still there.

She had one of the Nauheim baths and it did not seem to agree with her. There was a little girl here last year that seemed to improve remarkably under that bath. It may be that it will yet be of decided value in this case. She has been having a mustard bath two times a day. She has had iron and Fowler's solution and peptomangan. She certainly ought to have iron in some form. I myself have little faith in the use of manganese in these conditions. Some organic preparations of iron I believe to be good, yet the inorganic, as a whole, I think, are better. It is said that they are irritating, but I don't think they all are. This girl is also taking digitalis. What she wants is rest, a diet consisting largely of milk, a laxative now and then. The raw beef and bone-marrow sandwich that she is having is an excellent thing.

In this case I expect to report progress.

A Series of Lung Cases.—This woman is aged twenty-one. She was admitted November 4th. She had a slight, dry cough about two weeks before she was admitted, and for seven days had had chill, fever, pain in the back and lower part of the side, worse on the right side, some blood-tinged expectoration. There has been no bloody expectoration since she came in; her face was flushed when she was admitted; the pulse was good in tension. The abdomen was distended, and there were some doubtful rose-colored spots on the abdomen. Her temperature was 99.8°; after that, in the course of the day, it was nearly normal. The maximum has been 100°; there has been very little febrile action. To-day as I listened I heard nothing definite, except over the apices in front, a few sibilant rales. When I first examined her I found distinctly some crackles posteriorly at the base; and intense tympany on the left, some crackling and sibilant rales at the base of the right lung. She spit a little blood before admission. Now, what is the matter with her?

You notice I spoke of the tympany and rose-colored spots. She may have simply a cold, or else the bronchitis which goes with typhoid fever. My own opinion is against typhoid. You often have to postpone your diagnosis for a week or more. I believe it is impossible for anyone to say that this is not typhoid, but I consider it a case of bronchitis with congestion in the lower part of the right lung. The case is interesting for the vagueness of the physical signs.

The second patient is eighteen years old, was admitted with regurgitation and aortic stenosis. Double murmur is that designated as the "Flint" murmur. Aortic disease is rarely due to endocarditis, but to sclerotic changes in the valves, and to great muscular effort or strain. Sclerotic diseases in general are due mainly to age, alcohol, and syphilis.

Aortic regurgitation is often seen in athletes, and men who do hard work continually, such as blacksmiths, iron-workers and oystermen.

Of all the valvular lesions aortic regurgitation is the most severe, and sudden death most often occurs; the left ventricle is greatly dilated.

Treatment.—A permanent cure is impossible, and the only thing to do is to keep the man quiet, purge him, give him a light, nutritious diet, but no digitalis, as the heart has enough work to do. Give cardiac stimulants and $^1/_{100}$ gr. nitro-glycerine four times a day, doubling the dose if necessary, increasing it until we get the desired effect, even up to $^1/_{25}$ gr.

Diagnosis between Gastric Ulcer and Cancer.—The patient is a colored girl, who complains of pains in the epigastrium and in the lumbar region. She has dysmenorrhea and difficulty in micturition. Has always been sickly, and was married at the age of fifteen. Both ovaries and her uterus have been removed by the surgeon. There is a slight family history of tuberculosis. She was admitted Dec. 3, 1900, her symptoms being pain in the abdomen, and the vomiting of blood and frothy mucus. She also had a cystitis. The bloody vomiting has continued every few days since admission, leading us to suspect a gastric ulcer. On examination of the stomach contents in these cases after a test meal, we find hyperacidity, but this proceeding is a dangerous one, as the necessary cleaning out of the stomach is very likely to cause a rupture of the ulcer. Tenderness on pressure over the floating ribs on the left side, as seen here, is a sign that points toward gastric ulcer, which is our diagnosis of the case.

Cancer of the stomach is a condition which is very often mistaken for gastric ulcer. Here, however, the patient's age, the vomiting of bright blood, and the absence of any humor, are three factors which are much in favor of gastric ulcer. Examination of the stomach

contents in cancer shows lactic acid, but no free hydrochloric acid, while in gastric ulcer there is free hydrochloric, but no lactic acid. The stomach contents in ulcer show micro-organisms. In carcinoma we find dilatation of the stomach, and, if the cancer occurs at the cardiac end, dysphagia. Ulcer shows a chlorotic condition of the blood, without leucocytosis, while in cancer there is a leucocytosis. The percentage of hemoglobin in cases of gastric ulcer will be found lowered. A rough method of testing for hemoglobin by the bedside in these cases is to draw a drop of the patient's blood, catching it on a piece of filter-paper. The physician now draws a drop of his own blood, whose percentage of hemoglobin he knows, dropping it on the filter-paper beside the first drop, and, comparing the depth of color of the two drops, we roughly determine the percentage of hemoglobin in the patient's blood. By this test we judge the percentage of hemoglobin in this case to be between 50 and 70.

Treatment.—The best treatment in a case of gastric ulcer is to give the patient little or no food by the mouth, that which is given being predigested food, such as peptonized milk. The thirst should be relieved by moistening the patient's mouth with a damp cloth, it being thought best not to give the patient cracked ice to swallow. An ice-bag over the part has a soothing influence. Gelatin by the mouth, or hypodermically, has been found very efficient, as it causes a tendency in the blood to clot, thus hastening the healing of the ulcer. In feeding by the rectum, give the ordinary enemata. Some physicians advocate the entire starving of a case of gastric ulcer, giving no food, but small injections of water by the rectum.

ANEURISM MISTAKEN FOR MEDIASTINAL TUMOR.

THE specimens were taken from a patient, who was a native of Germany; he was aged sixty-two, and a blacksmith by occupation. He was admitted to the hospital three weeks ago, complaining of pain in the mediastinal region, which had been present for a year, and died on January 20. The family history was negative. The man had none of the diseases of childhood, but had rheumatism three years ago, and for some time past, dyspnea. On admission he had a harsh cough and was cyanosed in the face and upper chest. An area of flatness was detected on the left side on percussion extending from the clavicle to the fifth rib. The apex beat was found in the sixth interspace at the anterior axillary line and the second aortic sound was accentuated. The left axillary space was punctured above the third rib, the instrument first entering lung tissue and then a solid mass of the consistency of cartilage was encountered, which was found to be dry, and which moved with the respirations. This tumor gave no expansile pulsation. His temperature has ranged between 95.3° and 100°, his respirations between 18 and 40. Purpura was seen on his chest and eyelids, thus being present for the last ten days. In the absence of a murmur and any expansile pulsation, and as there was no tracheal tugging and no marked difference in the two radial pulse, a diagnosis of mediastinal tumor was made.

The post-mortem showed two enormous aneurisms, both filled with a clot which was absolutely hard. The marked displacement of the heart without hypertrophy and the long-standing dyspnea, are two points which should have given rise to a suspicion that the case might have been one of aneurism.

—In England 500 people a year die of hunger, 100 of whom are inhabitants of London.

SURGICAL CLINIC.

BY JOSEPH A. BLAKE, M.D., NEW YORK.

Visiting Surgeon Harlem Hospital; Attending Surgeon St. Luke's Hospital; Junior Surgeon Roosevelt Hospital, etc.

CASE I. *Excision of External Carotid Artery for Inoperable Epithelioma of the Floor of the Mouth.*—This man, gentlemen, has an inoperable epithelioma of the floor of the mouth. I shall excise the right external carotid artery and so cut off the blood supply to the mouth to a certain extent. Dr. Dawbarn has operated by this method twenty-four times and has obtained good results, I believe. Of course, in this case the prognosis is bad, for the involvement is very extensive. This man has been operated upon previously, the external carotid on the left side having been excised ten days ago. The only excuse I have for operating upon this patient is that I trust that I will produce some effect upon the growth in the mouth, and relieve him of the pain and distress of a large sloughing ulcer in this locality. I do not hope to cure this man; he will ultimately die from extension of the trouble. We do not do the operation upon both sides at once, for it cuts off the blood supply too suddenly. In about one week collateral circulation will be established; this takes place between the branches of the inferior and superior thyroid below, and above between the angular and other branches of the facial, and the branches of the ophthalmic.

The operation consists of a long incision carried from below the lobe of the ear to a point below the thyroid artery. Any glands which are enlarged are dissected out, the artery is exposed and the vessel is ligated just above the bifurcation of the common carotid. The branches of the artery will then be ligated from below upwards in order, until we reach the terminal branches, the temporal and internal maxillary. In Dr. Dawbarn's experience, the operation carried out in this manner has proved successful in controlling the growth and prolonging life; and Dr. Keen of Philadelphia has operated in this manner in one or two instances.

The incision I now carry up to a point a little above the angle of the jaw. I note that the glands are somewhat enlarged. In these cases, of course, it is necessary to do much blunt dissection, inasmuch as these enlarged glands that I am now lifting up lie directly over the internal jugular vein and are adherent to it. Here lies the external carotid artery in its sheath; this sheath I shall now cut open to expose the vessels contained in it. The superior thyroid artery is given off just at the bifurcation of the common carotid, so I shall ligate it separately and then pass a ligature just above it and tie off the external carotid; but before cutting the lower end of the external carotid I shall tie off its branches in order from upwards, for in this way the branches remain full and are more easily recognized. Here are the lingual and facial arteries which are given off together; the artery at this point appears to bifurcate. In tying off these vessels I use chromicized catgut, which does not slip in the way that ordinary catgut does at times. It is a far safer ligature. Having tied and divided the lingual and facial, I now come to the occipital artery, which is a very small artery in this instance. Having tied it, I next come to the ascending pharyngeal and posterior auricular arteries, which are treated in the same manner. Before getting at this branch the artery is passed beneath the digastric and stylo-hyoid muscles and hypoglossal nerve. When the operation was performed on the other side very large *venæ comites* were encountered. Having now tied off and divided all the

branches, it is only necessary to tie off the external carotid at or just below its bifurcation. Here is the excised artery, which, as you can see, is pretty small. In this operation I have taken pains to keep the veins intact. Deep sutures are now applied and then a subcuticular one; this suture is to be applied when we feel certain that the operation has been an aseptic one. In using the interrupted sutures, a portion of the skin can be reopened and drainage instituted, if necessary; this can not be so readily done in using the subcuticular suture.

I have a little girl, aged about two years, at St. Luke's Hospital, who has sarcoma of the face; it is one of the vascular varieties of sarcoma—almost an angioma. In this instance, I expect to make a ligation of the external carotid artery on both sides, as in this case. I have already treated her by a method of subcutaneous cauterization, which I did in the following manner: A wire was passed through the tumor. This wire was made up of three segments, the central one being of platinum, the other two being of silver. Being attached to the battery, the platinum portion of the wire was rendered red-hot, the silver portion remaining cool, which enabled us to cauterize the tumor itself without injuring the skin. I have employed this method two or three times, but have never reported my results, as I have been waiting until I had enough cases to perfect the method, and to make a decent showing. I have treated this case with some success in this manner, the growth having been considerably diminished by the subsequent contractions.

Case II.—Osteomyelitis of the Tibia.—This man is thirty years of age. He had his first attack at the age of thirteen. This attack apparently was an acute one. He was operated upon about five days after the commencement of that attack. Three months later he had a second operation performed. Following that he was in the hospital one year. We find in this patient an opening leading down to the bone, and a scar about eight or nine inches in length. Usually the only chance for a patient with acute osteomyelitis is in an early operation—chiselling the bone in order to allow the pus to escape. It does not make much difference whether the bone is entered in several places or by a long growth-like incision, so long as drainage is instituted and the infectious material removed. Sometimes people recover without operative interference. In this man, after the second operation, the wound entirely healed. He had no recurrence of his trouble until about two years ago, when a sinus formed and pus discharged. The sinus closed under treatment, and no extensive operation was necessary. Since then he has had no recurrence of his trouble until ten days ago, when the sinus reopened and discharged. At present there is a sinus leading down pretty deep into the upper part of the shaft of the tibia. There is probably necrotic bone there, and the object of my operation now is to go down by means of a chisel and gouge and remove the necrotic portion and leave a wound that can be packed and drained so as to heal up from the bottom—*i. e.*, to make a wound much wider at the top, or funnel-shaped.

In the last few weeks we have had here one or two cases of osteomyelitis. One case was very similar to this one, but with no sinus; it had started as an acute case at one time and afterwards there was a reproduction of symptoms. In this instance the patient complained of pain at the lower part of the tibia, near the site of the old trouble. The diseased bone was ivory-like; centrally there was a mass of granulation tissue, which gave rise to the trouble. Immediately after the operation the pain disappeared, and he went on to rapid and complete recovery, the cavity of the bone filling up quickly. A probe enters the sinus about two inches or more. Below this opening you will note the scar of an old ulceration, where the tissues are very poorly nourished.

An incision is now made deeply down through the periosteum and the bone is chiselled away. Unless the operation is a very extensive one the tourniquet is not demanded. This is quite a large cavity, as you can see when I move the probe freely about. The bone is quite thick, it being nearly an inch to the medullary canal. In curetting I get away a quantity of granulation tissue; the bone beneath it is very hard. The cavity I will now have washed out with a solution of formaline, 2 per cent.

There are various ways of treating this large cavity. We may close the wound and allow it to fill with blood, or we may introduce bone clips; or, on the other hand, we may leave it open and allow it to granulate up from the bottom. In this instance, we will employ Schede's blood clot, which organizes, believing that we have done aseptic work and have removed all infectious material. Having united the periosteum and the skin, I will now apply the dressings and see if the wound does not fill up and remain aseptic; if it does not, we shall open it and treat as an open granulation wound.

GENITO-URINARY PROGRESS.*

DR. SAMUEL ALEXANDER, of New York, presented the subject of "The Treatment of Intra-Peritoneal Traumatic Rupture of the Bladder by Laparotomy and Suture." His report consisted of forty-five cases, with twenty-three deaths and twenty-two recoveries. After taking up the critical examination of the causes of death, he considered the etiology, and then presented the following questions: (1) How can we prevent delay in operating upon these cases? He condemned the routine methods of diagnosis, especially the injection and the inflation tests. Both conditions required operation, and he advised that the operation should be begun by exploring the prevesical space, and if this was found to be healthy the incision could be extended upwards and the abdominal cavity opened. (2) How shall we treat the peritoneal cavity to obtain the most thorough asepsis? He advised most thorough irrigations of the cavity with hot normal saline solutions. (3) How can we most effectually close the bladder wound? It was not so much a question as to the material used as to the manner in which it was introduced. In the case he reported silk was used and the rent closed by a layer of interrupted Lembert sutures and reinforced by Matrass sutures.

Rupture of the Urethra: A Report of Three Cases.—Dr. James R. Hayden, of New York, reported these cases. In Case 1 the bulb of the corpus spongiosum was crushed into a bleeding and oozing mass of tissue, the bulbous urethra having ruptured longitudinally in many places on its floor. Following an external urethrotomy, the clots were turned out, the bleeding points were ligated, full-sized sound was passed, and the bladder irrigated and drained by a large perineal tube, which, was removed permanently on the fifth day. In Case 2 there was a rupture of the urethra, with extravasation of urine. Soft rubber and silk catheters passed as far as the bulbous urethra and then left the canal to enter the perineal tissue. Forty-two ounces of bloody urine and many clots were evacuated, and the bladder irrigated with saline solution, several ounces of which were

*Abstracted from papers read before the American Association of Genito-Urinary Surgeons at Old Point Comfort, Va.

left in. An external urethrotomy was then done, with a silver catheter as a guide. The perineal tissues were infiltrated with blood, urine and clots, with free oozing. After stopping the bleeding and drying the parts, a longitudinal rupture could be seen in the floor of the bulb of the urethra. A full-sized sound was passed into the bladder, which was irrigated and drained by a large perineal tube, as in external urethrotomy. The perineal wound was left open and packed lightly with gauze. On the fourth day the perineal tube was removed permanently. In Case 3 there was a rupture of the urethra without extravasation. Boric acid and hyoscyamus were given internally. He was catheterized at regular intervals, and the urethra carefully irrigated with a warm alum solution. The perineum was covered with cold bichloride dressing. On the fifth day the patient was up and about, and was discharged from the hospital cured on the tenth day.

Inversion of the Tunica Vaginalis for Hydrocele.—Dr. R. H. Greene, of New York, read this paper. He stated that within the last ten years a new operation for the radical cure of hydrocele had originated in France, and its use was being advocated by a large number of surgeons at the present day. About one month ago he had operated upon a patient by this method, which was as follows (according to the description by Winkleman): "Incision down to sac of hydrocele; incision of sac three-fourths centimeters long from above downward, more toward the upper than the lower pole. After the hydrocele fluid has escaped the testicle is drawn completely out, so that the entire tunica vaginalis is turned inside out. The incision in the tunica then comes in relation with the insertion of the spermatic cord into the testicle, which incision may be shortened by a suture or two, so that the testicle cannot return through the opening in the tunica. The tunica and testicle are replaced in the scrotum, with the result that the entire serous surface of the tunica vaginalis proper faces toward the loose connected tissue of the tunica vaginalis communis, with which it may soon become fused, the testicle lying outside the tunica, between the tunica and the scrotal wall. This bloodless operation is concluded by closure of the external wound in the scrotum. In the majority of cases the testicle is dislocated upward, as the result of the operation." Drainage is not required. The only complication mentioned by any writer is "a slight periorchitic swelling, due probably to the saturation of the loose connective tissue interspaces with the secretion of the serous membrane, and which may persist for some time. This operation can be performed for double hydrocele by means of a single scrotal incision, followed by an incision through the membrane separating the two sides of the scrotum.

A Case of Unusual Bacillus or Abnormally Behaved Gonococcus.—Dr. J. P. Tuttle, of New York, related the case of a patient, fifty years old, who gave a protracted history of urethritis and who was taken with symptoms of a severe cystitis, and who discharged large quantities of pus and mucus in the urine. No results were obtained from inoculation experiments. In culture experiments a mixed form of coccus, similar to gonococcus, but resembling more the diplococcus found in cerebro-spinal meningitis, was found. It differed from the gonococcus in that it was rapidly destroyed in an acid media, but thrived in an alkaline one.

Partial Excision of the Bladder and Urethra for Carcinoma.—Dr. Tuttle reported this case of cancer of the rectum, which involved the urethra, the prostate and possibly the wall of the bladder.

Clinical Observations in Syphilis.—Dr. John A. Fordyce, of New York, read this paper. He had recently seen gangrene of the initial lesion in a patient who presented no phimosis or paraphimosis, who was not addicted to alcohol and who was in good health. During this process the induration disappeared only to return upon cessation of the process. Chlorinated soda solutions he had found to be rapidly beneficial, probably due to the penetration into the tissues of the chlorine which was set free. The cure was facilitated by the use of iodoform. Certain forms of lichen planus may readily be mistaken for the papular or papulo-squamous syphilide, and in a case reported by him there were grouped papules with circinate or gyrate outlines, having a pigmented center and surrounding areas of pigmentation. This resembles in a very striking manner the relapsing syphilide. He related a case of a patient in whom a very careful examination showed a pronounced thickening and exquisite sensibility of both ulnar nerves, and atrophy of the muscles of the ball of the left thumb. These conditions, together with the eruption which one would not expect to encounter in syphilis, pointed strongly to lepra, an opinion which was confirmed by the presence of lepra bacilli in a piece of tissue excised from one of the infiltrated patches. Mercury administered intra-muscular, caused a disappearance of the eruption. Crocker and others have noted a rapid disappearance of leprous nodules after intramuscular injections of mercury.

Some of the Conditions Following the Bottini Operation for Prostatic Obstruction.—Dr. L. Bolton Bangs, of New York, read a paper with this title. He brought out the following points, which he considered of importance: (1) The muscular impediment which almost immediately followed the removal of the instrument. In order to overcome this difficulty he had had made a series of metal catheters, patterned after the Trendelenburg searcher, with solid tips, in order that the instrument may be sterilized. (2) The process of repair, as witnessed with the cystoscope, begins and proceeds as under ordinary aseptic conditions. A specimen removed from one of his patients was then shown, which demonstrated that the grooves made had immediately relieved the mechanical obstruction. It was his opinion that the spontaneous urination which followed the operation was due, not only to the formation of the grooves, but to the contraction of the cicatrices and to atrophy of the gland tissue. (3) The decided necessity for after-treatment. Patients usually come for treatment with chronic catarrh of the prostate, seminal vesicles, bladder and urethra, and the after-treatment in these cases should be continued until all the foreign material had disappeared. Out of forty-two cases he had three deaths. His explanation for these deaths was "bad judgment in operating." A parenchymatous prostatic abscess existed in one case, and this could not have been diagnosed. In another instance death occurred in an old man who insisted upon the operation.

What I Have Learned from One Hundred and Sixty-One Operations for the Relief of Senile Hypertrophy of the Prostate Gland.—Dr. Orville Horwitz, of Philadelphia, read this paper. The various operations he performed were classified as follows:

Vasectomy.—Twenty-eight cases, with no deaths. The results obtained lead him to make the following conclusions:

1. As a curative measure vasectomy is of little value, and is not to be recommended.

2. The operation appears to be most effective when performed on patients between fifty and sixty years of

age, in whom the prostatic enlargement is of the soft, glandular variety. The genital organs of patients of this age are usually in a healthy condition, and the individuals usually object to any operation that is liable to interfere with their sexual functions.

3. The operation is serviceable in those cases where the physical condition of the patient renders him unfit to undergo surgical procedure, who will not submit to a more serious proceeding, who has to depend upon the frequent use of the catheter, or who suffers from periodic attacks of orchitis.

4. Sexual vigor is not diminished by the division of the vasa deferentia.

5. Atrophy of the testicle does not result from the operation.

Castration.—Forty-four cases, two deaths. The following deductions he thought were warrantable:

1. In selected cases, bilateral castration will always hold a place in genito-urinary surgery as a means of removing the obstruction caused by prostatic hypertrophy.

2. The operation is indicated in men of advanced years, whose sexual powers are lost, the overgrowth of the prostate being glandular in character, or who have reached that period of life where the passage of a catheter becomes difficult and retention of urine not uncommon, or if advanced disease of the bladder and kidneys does not preclude a serious operation.

3. The primary effect of castration on the glandular prostatic hypertrophy is, first, to relieve congestion, and, secondarily, to cause atrophy.

4. When the prostatic enlargement is fibrous in character no benefit is derived from the operation, and the employment under these circumstances is not to be recommended.

5. Orchidectomy in very old subjects with extensive disease of the bladder and kidney is attended by a large mortality, and is a very serious operation.

Supra-Pubic Cystotomy.—The indications for a supra-pubic cystotomy in prostatic hypertrophy may be summarized as follows:

1. When retention exists and it is found impossible to evacuate the urine by the usual methods that are employed for the purpose.

2. As a temporary palliative means in those patients who have reached the "break-down period of catheter life," whose resisting powers have disappeared and who suffer from secondary involvement of the bladder and kidneys, and whose condition is such as to preclude the resorting to any more serious operation, but require immediate relief from the symptoms caused by the obstructing prostate gland.

3. In feeble old men, in whom the enlargement of the prostatic growth is fibrous in character, which renders the introduction of a catheter difficult, and the passage of the Bottini cautery knife impossible, in whom there is long-standing chronic cystitis, with probably diseased kidneys, which precludes a prostatectomy, supra-pubic cystotomy may be selected as the least dangerous and most satisfactory operation which can be employed.

Prostatectomy.—His conclusions he summarized as follows:

1. With the exception of ligation of the internal iliac arteries, prostatectomy is the most dangerous of any operation that has been recommended for the relief of prostatic obstruction, due to hypertrophy.

2. Supra-pubic prostatectomy is the safest method, especially if combined with perineal drainage.

3. The best period to select to perform this operation is early, before the break-down of catheter life and serious complications have supervened.

4. Either an atonied or contracted bladder of long-standing, associated with chronic cystitis, attended by the formation of sacs, or pouches, are contraindications for the operation.

5. A partial prostatectomy is indicated in those cases where a valve-like lobe exists, which interferes with urination, or where there is partial hypertrophy of one of the lobes.

6. A complete prostatectomy is indicated where a hypertrophy of the three lobes has taken place, especially if the condition is associated with tumor formation, projecting well back into the bladder, or has given rise to a stenosis of the prostatic urethra.

7. Perineal prostatectomy is best suited in those cases where the enlargement of the lateral lobes has a tendency to grow towards the rectum or obstruct the urethra.

8. When performing a perineal prostatectomy the semi-circular incisions advocated by Pyle, or the transverse cut of Nicoll, is the most satisfactory.

9. The removal of a portion of a small, hard, fibrous prostate gland by means of the perineal route is a very difficult operation. There is danger of not only extirpating the entire gland, but the prostatic urethra as well.

Bottini Operation.—From the results obtained by the experience that he recorded in his paper he felt warranted in forming the conclusions as follows:

1. Success following the Bottini operation depends on having perfect instruments, a good battery, the necessary skill, and the employment of a perfect technique.

2. In suitable cases the Bottini operation is the safest and best for the radical cure thus far devised for the relief of prostatic hypertrophy.

3. It is often very efficacious in advanced cases of obstruction, as a palliative measure, rendering catheterism easy and painless, relieving spasm, lessening the tendency to constipation, and improving the general health.

4. It is of special service in the beginning of obstructive symptoms, due to hypertrophy of the prostate gland, and may be regarded as a means of preventing catheter life.

5. It is indicated in all forms of hypertrophy, except where there is a valvular formation, or where there is an enormous growth of the three lobes, associated with tumor formation, giving rise to a pouch, both above and below the prostate gland.

6. Where the bladder is hopelessly damaged, together with a general atheromatous condition of the blood vessels, associated with polyuria, results are negative.

7. Pyelitis is not a contraindication to a resort to operation.

8. The character of the prostatic growth has no bearing on the results of the operation.

—Several sufferers from writer's cramp are reported to have obtained great relief by becoming enthusiastic golfers. This game requires the use of the upper extremities just to the degree adapted to people who have lived a sedentary life. The movements are necessarily coördinate, and they are combined with proper exercise of the lower extremities, and a large amount of time is passed in the open air.

MISCELLANY.

—The game of chess is taught in all the Australian public schools.

—Chicago is reported to be having an epidemic of diphtheria among cats.

—A foreign physician asserts that the pain of neuralgia, if superficial, can be relieved by throwing a beam from a bright arc light upon the affected part.

—The newly appointed Bishop of Oxford, the Very Rev. Francis Paget, D.D., Dean of Christ Church, is the second son of the late Sir James Paget, Bart., F.R.C.S.

—Rastus—What yo' tink is de mattah wif me, doctah? Doctor—Oh, nothing but the chicken-pox, I guess. Rastus (getting nervous)—I clare on mah honah, Doctor, I ain't been nowhar I could ketch dat!

—Maiwatchin, on the borders of Russia, is the only city in the world peopled by men only. The Chinese women are not only forbidden to live in the territory, but even to pass the great wall of Kalkan and enter into Mongolia. All the Chinese of this border city are exclusively traders.

—Max Nassauer asserts that an incipient cold in the head, with all its unpleasant sequelæ, can be checked every time, in the first hour or so, if the nose is thoroughly rinsed out with a weak solution of potassium permanganate, which seems to have a specific action upon the germs causing the trouble.

—The new Maternity Hospital building, the gift of J. Pierpont Morgan to the Society of the Lying-in Hospital of the City of New York, is nearing completion and will be ready for occupation early in the autumn. It occupies an entire block on Second avenue, from Seventeenth to Eighteenth streets, and is eight stories high.

—Members of the Homeopathic Medical Fraternity in Pennsylvania are making a strong plea for an insane asylum to be under the control of members of their school, as there is not as asylum in the State where a homeopathic doctor is admitted to practice. They ask for $200,000 with which to erect a building, and have a good prospect of getting it.

—Sanger (*N. Y. Med. Jour.*, April 8, 1889) brushed the tonsils with methylene blue, and found that water thoroughly gargled returned uncolored from the mouth. He also dusted the throat with flour and had the patient use a gargle containing iodine. The blue color reaction appeared only on the velum palati and on the tongue. The inference was that it is futile to attempt to medicate the pharynx and tonsils by means of gargles.

—In crushing accidents in which the limbs have been caught in machinery it is very difficult to cleanse the wound properly, owing to the fact that the parts are much covered with grease due to lubricating substances. Ordinary gasoline is an excellent thing wherewith to remove this grease; it causes no pain, dissolves away the grease, and leaves a clean surface upon which watery solutions or antiseptics can exert their full power.

—Witthauer has employed olive oil in cases of biliary colic with brilliant success. He gives it first by the mouth in 1-ounce doses, to which a few drops of oil of peppermint have been added. When in the course of time the patients find themselves unable to continue, he employs it in the form of an enema, about 400 to 500 Cc. being injected at first every day, and later at longer intervals. He reports three cases in which large numbers of stones were successfully and permanently removed by this method, without resort to operation.

—To prevent pain when inserting a hypodermic needle, the spot where the needle is to enter is touched with a toothpick dipped in strong carbolic acid; a white spot immediately appears (due to the coagulation of the albumen in the tissues). Shortly after perfect anesthesia of the spot is manifest and the hypodermic needle can be pushed through the skin without pain at this point, and the infiltration of the tissues begun. If a large area is to be injected, several spots are marked in the same way for insertion of the needle.

—Roughly speaking, the world's consumption of sugar in the last fifteen years has doubled, while in Great Britain it has trebled per head in forty years. The English and Americans stand easily at the head of the list as the sugar-eating nations. Dr. Willoughby Gardner, in a recent article, establishes the fact that sugar is a potent creator of energy and maintainer of stamina. His general conclusion is that the increased height and weight and the improved health of the English people in the last half century are largely due to the increased consumption of sugar.

—A surgeon's sewing machine was exhibited by Dr. Paul Michel at the late Congress of Medicine. The instrument is quite small, easily held in the hands, and has received the Barbier prize of the Faculté de Médécine. In future a surgeon need not slowly stitch the edges of a wound. With the left hand he keeps the two lips together, and with the right he fastens it by means of little clasps or "agrafes" of nickel, having points which only penetrate the epidermis, and are not painful. These catches are applied to the machine, a species of pincer armed with them, which can be disinfected by heating it red-hot.

—In a highly interesting communication to the London *Times*, a correspondent calls attention to the uncommon longevity of members of the Society of Friends. He says: "During the year ending in 1900, there were reported the deaths of 299 members of the Society of Friends in Great Britain and Ireland. The proportions were 159 males and 140 females. The average age at death was a little over sixty-one years and seven months. A table compiled from the returns shows that there is a very limited mortality of children, and that it is chiefly in this respect that the death-rate of the Society of Friends differs from that of the general population. Only fourteen deaths out of the 299 were reported as those of children under five years of age; between five years and twenty years the number was nine; between twenty and thirty years the deaths were sixteen, and the same number was that of the deaths between thirty and forty years. From forty to fifty there were twenty-four deaths, and from sixty to seventy there were sixty-two deaths. From seventy to eighty the number was fifty-seven, and from eighty to ninety, sixty-nine. There were eight deaths of Friends between ninety and one hundred years of age, and there were two deaths of persons over one hundred. One of the latter died at Croydon in her one hundred and first year, and the other had passed one hundred and one years of age.

ORIGINAL ARTICLES.

INFANTILE TYPHOID FEVER.*

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IN selecting the subject of infantile typhoid fever for to-night's discussion, I am led more by the hope of turning the attention of our Fellows to the frequency of the disease in this locality than to pretend to offer anything new in the line of therapeutic handling.

When a student I was taught that typhoid fever did not occur in very early life, and I think this was believed by most practitioners until a few years ago. To-day we know it to be a very frequent trouble in childhood and even in infancy. It has been found in infants four months old; numbers of cases have been reported between the ages of four months and one year; and even in infants dying soon after birth in mothers having typhoid fever at the time of birth. As stated, numerous cases are reported occurring during the period of nursing, and between the ages of two and ten years it is not at all uncommon.

While the disease at this period of life does not differ in its most essential features from that of the adult, yet there are such clinical differences, and sometimes such difficulties in making a diagnosis that we may well study the subject carefully and specially.

For many years there was described and treated a form of low fever in children, which was termed infantile remittent fever, common in this locality, and very common in the South, occurring with or without typhoid endemics. These cases have, in the last half decade, been carefully studied and watched until now they are looked upon as typhoid fever.

Typhoid fever is a much milder disease in children than in adults, and its course is shorter, with the nervous phenomena at times overshadowing those of the intestines; its symptoms are less severe, less typical and pathognomonic; its mortality much lower. The severity increases directly with the age of the child, and is much greater over ten than under ten years. The onset in children is more often acute and sudden, with many of the symptoms fully developed, although other cases may come on insidiously. The complications, fewer and sequelæ less marked.

Fever.—The fever of infantile typhoid differs quite materially from that of the adult. There is a greater difference in the morning and evening exacerbations, the fever runs a very irregular course for three to six days, the fastigium is reached in a much shorter period and lasts a shorter time—ordinarily from eight to fourteen days. Holt says typhoid fever is perhaps the only fever that runs higher in older than in younger children. It is the rule that infantile typhoid runs a lower degree of fever than that of the adult. Subnormality is found at the end of the course in the great majority of cases. I have seen two cases where the temperature dropped to 95° in the morning, 97½° in the evening, this continuing for perhaps a week or longer before perfectly normal temperature was reached. The maximum temperature—the fastigium—may be reached within the second or third day during the primary period of fever. The oscillations are often much greater than in adults. The secondary or suppurative fever in young children, owing to the frequency with which resolution of the intestinal inflammation occurs without suppuration, is in many cases absent (probably about half the cases) which materially cuts short the entire duration of the disease. On the whole, the temperature usually conforms to the remittent type throughout the attack.

Nervous symptoms are almost constantly present in infantile typhoid. In children you must ever keep before your mind the accurate dictum of Stokes "that in the fevers there is no single nervous symptom which may not and does not occur independently of any appreciable lesion of the brain, nerves, or spinal cord in children." It is not uncommon to find cases even beginning with almost every symptom of a meningitis. I have seen two cases very recently in consultation with other physicians, which at first were diagnosticated meningitis.

There was the characteristic abrupt onset, convulsions, intense headache, vomiting, painful rigidity of the neck, child lying with eyes half closed, not noticing anything, not replying to questions, and crying with that peculiar, irritable whine which we so often find in meningitis. These two cases afterward ran a typical course. On the other hand, a majority of these cases show less markedly the usual nervous symptoms of adults, and ordinarily subside early. It is not uncommon to find, during the entire course of the disease, the children bright, intelligent looking, tractable and lovable. Other than those cases with sudden onset, with marked meningeal symptoms, we rarely see in children those nervous symptoms seen so often in graver cases of adults, viz.: subsultus-tendinum, carphologia, coma-vigil, tremor, grinding of the jaws, etc. Headache is comparatively rare in very young children. Instead of the wandering delirium seen in adults you will find it replaced in very young children by sudden, sharp and prolonged outcries with excitement.

Digestive Symptoms.—Loss of appetite is marked at first. The tongue early in the course of the disease may be clean, although it is usually thickly coated with a cream-coated fur. Dryness of the mouth and tongue, fissures of the tongue, and sordes are comparatively rare. They are rarely if ever seen in very young children. You do have, however, in the severer cases cracking of the lips and fissures about the angles of the mouth. Marked tympanitic distention of the abdomen is relatively infrequent, but a moderate degree is fairly common. Tenderness is often very little marked under ten years. Hemorrhage from the intestine is comparatively infrequent and perforation extremely rare. The younger the patient the less the tendency to either hemorrhage or perforation. Diarrhea is not common or severe. Enlargement of the spleen is the rule. In very young children the enlargement may be considerable. The roseolous eruption is even less frequently seen in children than in adults, and when found is generally scanty and disappears rapidly.

Bronchitis is less frequent, but where it does occur is usually a more prominent symptom than in adults. Bronchopneumonia and pleuropneumonia are not uncommon. I saw a case in consultation with Dr. D. only a few weeks ago in a young child, which died undoubtedly of pleuropneumonia complicating typhoid.

Complications and sequelæ are ordinarily mild and not frequent. A changed mental condition and even acute mania are not decidedly uncommon sequelæ of the disease. Suppurative otitis media is not uncommon. Parotiditis, chorea, etc., may be seen. Meningitis caused by the bacillus typhosus occurs. A number of such cases have been recently reported.

Diagnosis.—The diagnosis of typhoid fever in chil-

* Read before the Louisville Clinical Society.

dren is often difficult, but a provisional diagnosis of enteric fever may be based upon the concurrence of the following marked phenomena, viz.: febrile movement with evening exacerbations, headache not severe, usual symptoms as in adult, abdominal tenderness, enlarged spleen, slight tympany, co-existence of local epidemic, etc.

During the first few days the disease may be confounded with the ordinary febricula of children, influenza, some of the exanthemata, etc. After this the difficulty will be in differentiating between typhoid, acute miliary tuberculosis, tubercular meningitis, appendicitis, malaria, etc. The greatest difficulty I have met with is between typhoid and tubercular meningitis.

The following symptoms of tubercular meningitis help to separate the two diseases:

(1) Frequent and continued expulsive vomiting.
(2) Retracted abdomen.
(3) Constipation.
(4) Normal size of spleen.
(5) Irregularity of pulse, frequency and rhythm showing constant and rapid fluctuation.
(6) Persistent convulsions, anesthesia and other symptoms of profound motor and sensory disturbances.
(7) Lower temperature, seldom rising above 102° F.
(8) Headache, acute.

It is oftentimes impossible to make a positive diagnosis until the end of the second week.

I have seen cases of appendicitis in children which were diagnosed typhoid fever. I do not see how any one with ability could make the mistake of diagnosticating appendicitis as typhoid fever, as the distinctive points between them are rather sharply drawn.

The prognosis in typhoid fever of childhood is generally excellent; the death rate is small; they stand the disease exceptionally well; the younger the child practically the milder the disease; the older the child the more severe the disease. Complications of various kinds frequently make the prognosis more unfavorable. Typhoid fever accompanied by pneumonia is generally fatal.

As to Treatment.—The treatment of typhoid fever in children differs very little from the general handling of these cases in the adult. High temperature does not demand the same attention in the child as it does in the adult; children stand hyperpyrexia very well. Typhoid fever in the child not being a disease of high temperature, the temperature, of course, gives us less concern than it does in the adult. The same methods of hydrotherapy may be employed for the reduction of temperature in the child as in the adult. We must look more carefully to the diet of the child, as the nutrition of the child is usually less perfect than it is in the adult. Milk is not always the best diet for a child with typhoid fever. Meat broths, meat extracts, albuminoids, especially if accompanied by hydrochloric acid, should be given, also raw eggs (only the whites being given) are indicated. If I can get a child with typhoid fever to take the whites of six, eight or ten eggs a day, I feel that the child's nutrition is well in hand. Owing to the fact that you have a catarrhal condition of the stomach, more or less in every case, with a lessening in the amount of hydrochloric acid and in the digestion of albuminoids hydrochloric acid being important, I always give these children in the water they drink a small quantity of H. C. L. Beef broths, liquid beef and beef extracts are excellent articles of diet in these cases. I treat the child ordinarily just as I do an adult after having dieted the case well; I use intestinal antiseptics, watch the bowels carefully, remembering that the cause of many of the symptoms is not ulceration of the intestine but absorption of toxines lying in the intestinal tract, and I try to get rid of these in every possible way by elimination, moving the bowels possibly more freely than we were taught to move them, and possibly more freely than the text-books outline; I try to relieve the child of all intestinal toxemia, support it with such remedies and nourishment as seems indicated, watching the temperature and relieving the symptoms as they arise, treating it otherwise as I would an adult.

DISCUSSION.

Dr. M. K. Allen: I do not know that it is exactly in keeping with the paper, but it may be interesting to the members of the society, if they do not already know it, that Louisville has the highest typhoid fever mortality of any city in the United States. There are but two exceptions, and they are really not exceptions, viz.: Philadelphia and Chicago. Two years ago Philadelphia had an epidemic of typhoid fever caused by polluted water supply.

One month ago I read a paper, which some of you may remember, in which I gave the death rate from typhoid fever in the city of Louisville for the past ten years. In both this country and Europe statistics show that the death rate from typhoid fever should not exceed 25 per 100,000 of the population. Our death rate for the past ten years has more than doubled this, and there is some cause for it.

Dr. S. G. Gabney: I shall only refer to one point, viz.: complications of the ear, which we occasionally see. Drs. Barbour and Cheatham will remember a case in a child thought to have had typhoid fever, and who had disease of the auditory nerve following. I think that sometimes follows typhoid fever in children, and also in adults, though the otitis media to which the author referred is more common.

Dr. J. W. Irwin: Dr. Boggess has read a complete paper on the question of infantile typhoid fever, and given an exposé of what is being done along that line. The transition from the original so-called enteric disorders of intermittent or remittent kind at present shows some tendency to be overdrawn.

My views are in accord with some of those expressed by the essayist. My own experience is that there are more cases of infantile typhoid fever than we formerly believed. But I think there are still quite a number of cases seen and regarded as typhoid fever which are of enteric origin other than typhoid. I could relate a number of cases of foreign bodies in the intestine which caused all the symptoms of well marked typhoid fever, and when the foreign bodies were removed the fever immediately subsided. I know of a case now, a child aged five years, that came under my care after having been ill for four weeks with so-called typhoid fever. The patient's temperature ran up and down, showing the irregular course that the essayist has described. Sometimes the temperature went as high as 105° F., again it would fall below normal. It would rise rapidly and sometimes be acompanied by two or three convulsions. It was regarded as a typical case of typhoid, giving the usual symptoms—rolling of the head, biting the fingers, tenderness at the nape of the neck, dilatation of the pupils; the child suffered from the influence of light and sounds, showing that there might be some meningeal trouble. I saw the case about the end of the fourth week, and it did not appear to me to present the ordinary history of typhoid fever, nor did it have all the appearance of the disease. It was at

times constipated, at other times the bowels were relaxed, and there was lack of the characteristic odor to the fecal evacuations.

In investigating the history of the case I found that the week before the child was taken down it had accidently swallowed a shingle nail; the physician in attendance had not been told anything about the nail. We at once administered a dose or two of castor oil. Three days later the child passed the shingle nail; the fever subsided; it has not had a convulsion since, and it has made a speedy recovery. The disease was regarded as a typical case of typhoid fever in a child five years of age.

Another instance of enteric trouble due to a foreign body came under my observation in a child that was in the habit of eating paper; it got hold of the morning paper and chewed and swallowed a page or two. The second day afterward the child was taken with convulsions; high fever supervened, going up to 104° to 106° F., dropping and rising irregularly for two or three days. It was regarded as having a violent attack of typhoid fever. I saw the case in consultation on the fourth day of its illness, and upon investigating the history found that the child was fond of putting foreign substances into its mouth, and the nurse had discovered it swallowing the paper. The child vomited some of the paper. A large dose of castor oil carried away two or three tablespoonfuls of chewed paper, and in forty-eight hours the supposed typhoid fever had disappeared. This was regarded as a true case of typhoid fever by a skilled physician.

I could go on and enumerate several other cases where orange seeds, grape seeds, apple cores and other foreign bodies have been found in the intestines of children who had been sick for a week or ten days with what was thought to be typhoid fever, running almost a typical course as laid down by the authorities of today, and yet the removal of the cause, when found, cured the disease so quickly that we could not regard the phenomena as due to any typhoid element whatever.

I think there is some danger of the clinicians of today carrying the fever idea too far. There is a distinct fever due to disturbance of the intestinal mucosa not of typhoid origin. The typhoid fever I have seen in children has not differed materially from what I have seen in the adult. I have found, on the contrary, that the disease in many cases does not run a short course. In children four to eight years of age it runs a course sometimes of five to seven weeks. It has been my experience that this disease in children frequently relapses; the child sometimes becomes apparently well, a relapse occurs and the patient goes on through another typical atack of typhoid fever.

Irritation of the membranes of the brain accompanying typhoid fever in children not infrequently occurs, with convulsions or spasms, and where we see a child having convulsions coming on during the first or second week of fever we must examine carefully into the cause of the convulsion. Sometimes the course of the disease is very rapid, from a week to twenty-one days. Twenty-one days, it seems to me, is a very short time for typhoid to run its course. I have seen a few cases of typhoid fever below the age of three years, but have seen many cases between the ages of three and five. Between the ages of one and ten years I have seen a great many cases, but the greater number have occurred between five and ten, and I must disagree with the authorities in regard to the duration of typhoid fever in children. My own experience teaches me that instead of its being of short duration it is unduly prolonged in the case of children of five to ten years. They are subject to frequent relapses.

Touching the pathological condition going on in the intestinal tract of children: We know that the glands and patches of Peyer are not so well developed; they are not so subject to local lesion, as in the adult; therefore, we can keep up their strength better if they will take food; but anorexia is almost complete. These children sometimes have an utter disgust for food, and they can scarcely be induced to take even water. Therefore, feeding the child by rectal alimentation, while usually very unsatisfactory, is the only way open to us in many cases. It is wonderful to know how long a child will retain its power of life under these circumstances without food. I have had some cases to live for five to fifteen days without taking even water.

Persistent projectile vomiting, rolling of the head, gritting of the teeth, putting the hands to the ears, stiffness of the back of the neck, always indicate to me some irritation about the brain, and these symptoms, accompanied by convulsions, are a sure sign that the membranes of the brain have become involved. In such cases I usually find a great many deaths.

Dr. H. N. Leavell: I was interested in the paper, especially because the doctor started out by saying that typhoid fever was an extremely frequent disease in childhood. All authorities state that it is not a frequent disease of childhood, especially under the age of three years. I believe Holt says he has seen but one or two cases under four or five months of age, and all authorities agree that it is a rare disease in early infancy. I was a little surprised that Dr. Boggess should find the disease so frequent in young children.

The essayist emphasized one point which all of us have observed, viz.: that the temperature of typhoid fever in children over ten years of age is always much higher than it is under ten years, or under five. This is an important diagnostic point, because all intestinal irritations will produce high and rapid rise of temperature in children under five years of age. One diagnostic point in typhoid fever, in considering tubercular meningitis, is very important from the fact we nearly always have a low temperature in tubercular meningitis, and never have enlargement of the spleen. I have seen a great many cases of typhoid fever which I was led to mistake for tubercular meningitis until the spleen was examined.

Dr. P. F. Barbour: Like Dr. Leavell, I believe typhoid fever under the age of two years is quite a rare disease. Northrup, in something over 2,000 autopsies on children under two years, was unable to find a single case in which he could diagnosticate typhoid fever.

I was interested in the points brought out by Dr. Irwin as to the symptoms arising from various foreign bodies in the intestinal tract; I believe that many cases diagnosticated typhoid fever were undoubtedly due to foreign bodies of various kinds.

The essayist failed to speak of one form of infection, toxemia or auto-toxemia, which frequently gives rise to symptoms which simulate typhoid fever closely and in which the bacillus is absent. In reviewing the symptoms of typhoid fever he omitted two or three which have seemed to be quite important; one of these is epistaxis. I have always laid a great deal of stress upon the presence of epistaxis in making a confirmatory diagnosis. Of course its absence does not positively indicate that the case is not one of typhoid fever, but its presence is confirmatory. In the second place, I think the appearance of these children is frequently of great assistance in making the diagnosis. A child

with tubercular meningitis has an aged expression, that is, an expression beyond its age, as if in profound thought, if it has the disease in a marked form. But in typhoid fever we notice not so much the thoughtful expression as the profound stupor under which the child lies. There is the same hebetude which we see in the adult, but it is more notable in the child because its expression is usually more bright than the adult's. The sleepy, dull expression lasting day after day is a great help in making the diagnosis. The third point is the character of the pulse. Typhoid fever has a slow pulse compared with the temperature, and whether in the child or the adult, a slow pulse with high temperature is indicative of typhoid fever.

As to the length of time the disease lasts in the child: Most pathologists agree that in typhoid fever in children under eight years of age instead of having an ulcerative inflammation of Peyer's patches such as we see in the adult; in other words, instead of having that ulceration during the second week with a mixed infection, such as we get in the adult with high temperature, that the child escapes that period, and that, consequently, the disease in the child runs a much shorter course. The course in the child is: the week of engorgement, congestion, or inflammation, and the week of resolution, whereas, in the adult, we have the week of engorgement, week of ulceration and week of resolution or cicatrization. I believe on that acount we find the course of infantile typhoid is shorter than in the adult; not only that, but it has an important bearing on the prognosis of typhoid fever in childhood. We escape not only the second week, but we escape the tendency toward hemorrhage and the tendency toward perforation from the lack of ulceration of Peyer's patches. Why Peyer's patches in childhood are able to resist the bacillus typhosus and can undergo resolution in a short time is a point which has not yet been determined.

Children are perhaps a little more liable to have relapses than adults with typhoid fever. I think this is possibly because of the fact that in typhoid fever of children constipation is more frequently a symptom than in adults.

I had the pleasure of reading several years ago a very elaborate article in the *Archives of Pediatrics* on typhoid fever in children, and it stated that constipation was much more frequent than diarrhœa.

Dr. J. E. Cashin: I think Doctor Allen is mistaken about the death rate from typhoid fever in Louisville for the last year being the highest of any city in the United States, as, if I am not mistaken, the mortality from this disease was greatest in Pittsburg, Penn., viz.: 456.

Whatever differences there may be in the clinical course of typhoid fever in the child as compared with the adult is due to the differences in anatomical structure of the gut and in suppurative lesions. Typhoid fever in the child is more strictly a septic process. The bacillus is found most absolutely in the blood and in the internal organs. There is very rarely ulceration of the lymphatic structures. In making most post-mortems upon typhoid patients, if one does not search carefully and make bacteriological examinations for the bacillus it may be overlooked. There are several germs which so closely simulate the bacillus typhosus that it is sometimes difficult to differentiate them.

I have reason to believe that typhoid fever in the child runs an entirely different course than in the adult. We have the period of congestion followed by resolution of the patches, and a secondary infective process leading to the up and down temperature curve in the child. I have gotten the idea that the elimination of toxines by the bowel in typhoid fever in purgation has but little effect, that the toxines of the typhoid germs are produced principally in the blood, not in the internal organs and not in the gut. The elimination of these toxines takes place through the kidneys to a very large extent, and the bacillus is also found in the urine.

Dr. J. W. Drake: I am particularly interested in the paper because of the case, which I saw with Dr. Boggess, and if the diagnosis was correct, which I believe it was, the credit is due the essayist. It was a peculiar case from the beginning. The child was twenty-two months old, and had two convulsions two or three weeks before I was called in. I was asked to see the child because of convulsions, and saw it once or twice afterward before it was taken ill with typhoid fever. After having convulsions the child never appeared to be well; it seemed to have choreic symptoms; it had nervous twitchings; it would cry for its mother to take it when the child was already sitting in her lap, etc. At the time the child took sick it seemed to suffer a great deal with the brain, and I thought it might be an attack of meningitis. It would frequently place its hand on the head, and perhaps next on the abdomen. A point between the two diseases was that usually in meningitis we have a shrinking of the bowel, whereas this child's abdomen was distended with gas. The bowels in the beginning were constipated until a few doses of calomel were given; after that the bowels moved freely, but the tympanites continued.

Dr. Boggess saw the patient after it had been sick two or three days, and his first impression was that it had some of the symptoms of typhoid fever. We gave it some intestinal antiseptics, and about that time a pleuropneumonia supervened. Brain symptoms also persisted, the child having the characteristic whining cry and seemed to suffer a great deal with pain.

Another point of interest in connection with this case is that some "worm powder" given the child brought away a great number of pin worms, these being found in the dejecta for two days. After this the child seemed to improve for a few days, but suddenly there was a change for the worse and the patient died, I think, from the pleuropneumonia.

Dr. Chase Palmer: I cannot say much about typhoid fever, and yet I should like to mention one or two things in connection with this subject, although my words may have but little effect. Within the last year or two there has been some rule at the Health Office in Louisville that all typhoid fever cases be reported there. If we consider the number of cases actually reported at the Health Office, since this rule went into effect, and the number of deaths resulting from this disease, we shall find that from 30 to 42 per cent. of those who suffer from typhoid fever in Louisville die. Of course, the explantion for this is that only a few of the cases of typhoid fever are actually reported to the health department, and something ought to be done by which physicians might be induced to report every case. At present it would appear that typhoid fever in Louisville is a more dangerous disease than it is in other communities.

Some simple form of report might be devised and furnished at slight expense to enable physicians to report all typhoid fever cases. The source of the milk and water supply used by the sufferers should receive especial attention and should be stated in the reports. Such information would be of great value to the people

of Louisville. The Health Office could then undertake systematic work for the prevention of typhoid fever by definitely locating many suspicious sources of the disease in our city. There is no question that typhoid fever in Louisville should be reduced, and I believe it can be done.

Dr. J. S. Moreman: The points brought out by Dr. Palmer are of the utmost importance. In a family under my care, ill with typhoid fever, five members are now at the Norton Infirmary, and one at Sts. Mary and Elizabeth Hospitals. One daughter has died. They used cistern water.

Dr. W. F. Boggess: The experience of Dr. Irwin is certainly different from my own and from many authorities on this subject. Where the Widal reaction test is used you can always make a positive diagnosis. While this test is not absolutely accurate, as we were led to believe when it was first promulgated, still it is a sufficiently accurate method of diagnosis in most instances.

Numbers of post-mortems have been made in cases dying with typical symptoms of meningitis, such a diagnosis having been made by some of the best clinicians in this country, and on post-mortem positive and absolute evidence and proof of typhoid fever were found. Numbers of cases have been reported where meningitis was diagnosed, the children dying of what seemed to be meningitis, typhoid lesions and the bacillus being positively found after death.

Dr. Cashin's statement that the lesions are scattered throughout the system, it being a more septic condition in the child than in the adult, is probably true; and one reason why the disease is of shorter duration in the child is that we miss the suppurative stage of the disease, and we miss the sloughing of Peyer's patches which is found in the adult; a septic fever where sloughing and ulceration are severe.

It is well known that intestinal toxemia is capable of producing any symptom of brain trouble, and I may say that I have seen typical cases of meningitis where by unloading and disinfecting the intestinal tract all evidences of meningitis disappeared. I have seen cases where a positive diagnosis of tubercular meningitis was made, and yet in two or three days the child was well. There is no specific cerebral symptom which may not be brought about by intestinal toxemia.

I have also noticed the fact mentioned by Dr. Barbour, that the pulse of a child with typhoid fever was not as rapid as it should be expected compared with the temperature. I have seen the temperature 102½° F. with pulse 120 (almost a normal pulse) in a child two years of age suffering from typhoid fever.

I think Dr. Palmer's suggestions are most excellent and undoubtedly something ought to be accomplished along that line.

Are Baths the Most Efficient Means of Cleansing Puerperal Women?—Professor W. Stroganoff, in *Centralblatt fuer Gynaekologie*, February 9, 1901, says that the bath is not yet proved to be efficient in cleansing puerperal women. The water in the bath always contains the diluted dirt, and even the diluted excrement, of the person using it. If the individual has ulcers or sores, staphylococci or streptococci get into the water and may locate in other parts of the body, while the tubs may contain germs from previous bathers. Infection of the nipples, or even of the vagina, may thus take place. He prefers a rubbing with soap, with a constant stream of water pouring over the patient. In the author's hospital service, the latter method of cleansing puerperal women has resulted in six months in a diminution of 7 per cent. of morbidity.

CHANCRE OF THE TONSIL: ITS SYMPTOMS AND DIAGNOSIS.*

BY S. G. DABNEY, M.D.,

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CHANCRE of the tonsil is not a very rare disease. It is far more common here than in other parts of the fauces, probably, as Bosworth suggests, because the virus is caught and retained in the crypts of the tonsil. It is sometimes due to unnatural sexual indulgences but more often to drinking vessels, pipes or other similar means or to kissing. The latter no doubt more frequently produces chancre of the lip, but now and then the poison is carried into the tonsil. According to Bosworth the tonsil on which a chancre occurs is nearly always hypertrophied. This seems natural, as it would be more likely to catch and hold the poison. The same author says the lesion is more aggravated than when situated on the penis; that the ulcer usually involves the whole tonsil, that it is of a grayish color and often covered with inspissated mucus, and that, though the opposite tonsil is sometimes inflamed, a similar lesion is never found upon it. This would seem to accord with our knowledge of syphilis.

Kyle, however, says that cases have been reported in which the disease was bilateral. These were perhaps rare instances of double infection. All authorities agree that the enlargement of the lymphatic glands on that side of the neck is very decided, the cervical bubo being much more prominent than that in the groin. Pain is usually not great, except perhaps in swallowing; if the ulcer involves the posterior pillar of the fauces or is between that and the tonsil, then there is likely to be sharp pain in swallowing.

There is often some febrile rise in the period of early glandular invasion.

Writers on the subject mention the characteristic induration, but in my limited experience it did not seem very perceptible.

Two of the following cases illustrate chancre of the tonsil acquired in different ways and presenting a very different appearance. The third case is that of ulcers of the tonsil; my only apology for including it here is that an experienced genito-urinary specialist considers it a case of chancre. It is still subjudice, but I lean rather to the opinion that it is an unusual form of tubercular ulceration.

CASE I.—About three months ago a gentleman twenty-five years old consulted me for a sore throat. It had begun a few days previously and was confined to the right side. There was a feeling of soreness and stiffness on this side and decided pain in swallowing. Examination showed a well defined ulcer on the posterior part of the tonsil, about the size of a three-cent piece and slightly covered with a grayish secretion. The tonsil was otherwise but little inflamed, and there was no other inflammation of the pharynx. The lymphatic glands at the angle of the jaw were enlarged.

Syphilis was positively denied, but I gave my opinion that the affection was syphilitic, though whether a primary or a secondary lesion I was then uncertain. The single ulcer and the absence of fever were against tuberculosis, while the age of the patient and the character of the ulcer contra-indicated cancer. Moreover, the excellent general nutrition was hardly compatible with either of these diseases. Simple cleansing solu-

* Read before the Louisville Clinical Society.

tions were employed and the patient kept under observation.

Three or four weeks later there developed more decided enlargement of the cervical lymphatics and tenderness and a little swelling of the gland just above and to the inner side of the elbow. There was also a slight eruption on the brow, especially near and in the scalp.

To confirm my diagnosis the patient was sent to an experienced genito-urinary specialist. He agreed in the diagnosis of chancre of the tonsil. On stating this to the patient he remarked that he had been in the habit of smoking his room-mate's pipe, and that his room-mate had been under treatment for syphilis for some months. Doubtless in this way he contracted the disease.

It will be observed that in this patient the ulcer was quite small and the cervical bubo also not very conspicuous. In both of which respects his case was exceptional.

CASE II.—While this gentleman was under my care I was asked by a professional friend to see a young lady suffering with some throat trouble, in consultation. The patient was a girl of 17, healthy in appearance except for a rather pale complexion and a swelling on one side of her neck. About five weeks previously her physician had observed a large ulcer on the left tonsil; enlargement of glands at angle of jaw and fever of 99 to 101 soon followed. The ulcer had not improved in spite of numerous local remedies. At the time of my visit I found the left tonsil enlarged and its surface covered with a heavy secretion. On scraping this off there was seen an extensive ulcer. Syphilis and tuberculosis were both thought possible. Microscopic examination of the exudate was made without result. Under antisyphilitic remedies internally the improvement was very rapid and cure soon followed. It was afterward learned that this young lady was receiving much attention from a youth then under active treatment for syphilis. In general I believe it is wiser to await distinct secondary symptoms before beginning treatment, but this patient had such decided annoyance, and it having lasted some weeks it seemed best to give appropriate internal treatment. How far the rapid improvement under these measures indicated a later rather than a primary lesion, I leave to others more versed in the treatment of syphilis to decide; but taking a general survey of the case and the statement of her most capable physician that he had observed no other suspicious lesion, though he had seen her very frequently all her life. I believe it an undoubted case of chancre of the tonsil.

CASE III.—Four weeks ago I was consulted by a gentleman about twenty-five years old for sore throat. The symptoms were soreness on the right side and slight pain in swallowing, observed only for the past few days. Near the center of the right tonsil there was a small shallow ulcer as large around as an ordinary pea and not more than one-twelfth inches in depth. There was very little secretion on it. In the upper part of the same tonsil there was another shallow and irregular ulcer. Both tonsils were slightly enlarged, the throat was otherwise healthy.

A distinguished throat doctor had seen the patient the day before he consulted me and had advised that he see a specialist in syphilis. He did so and this gentleman was of the opinion that it was a case of chancre, but wisely advised waiting for secondary and positive symptoms before giving syphilitic treatment. A little later a similar ulcer appeared on the left tonsil. These lesions were observed for some weeks with only local cleansing measures. Then a sixty-grain solution of nitrate of silver was applied and they were soon cured. He has kept under the frequent inspection of the syphilis doctor, but no other suspicious symptoms have been observed. I had a microscopic examination of the secretion of the ulcers made, but with negative result. The gentleman is of rather delicate blonde type and has been advised to leave this state on account of his health.

DISCUSSION.

Dr. M. F. Coomes: The first case reported seems to be a clear one of chancre. The second case seems not altogether clear as to whether it is a primary or secondary lesion. It seems to me to be a secondary or tertiary sore. The last one, it seems to me, might be chancroid.

Mouth syphilis is a puzzling thing to deal with. Dr. Dabney is like a good many others; these cases come in schools. A few years ago I had four cases of mouth syphilis inside of three months, all in females, and I felt sure all these women were innocent. The first was a chancre of the lip in a young girl who had a lover. The next was in a person of a young married woman which had a chancre of the lip, which had been there for weeks, also from kissing. The next was similar to the first case. The fourth was a most interesting case occurring in a little girl ten years of age. She had a chancre at the junction of the hard and soft palate, a little to the right of the median line, and it was in such an unusual place and in such a subject that I was inclined at first to doubt my own diagnosis. To make a long story short, the whole thing sloughed through, the girl had all the symptoms of a violent syphilis, iritis, even breaking down of the bone of the inferior maxillary, notwithstanding the fact that we pushed mercury and iodide of potash. The question with me is how that child could have contracted a chancre in the locality in which it was found; she was the only child in the family. She went to school, and the only explanation I have ever been able to suggest was that she was infected from the pencil of another child who was suffering with syphilis of the mouth.

Dr. Dabney made a statement that I desire to emphasize, viz.: that where you have a sore in the mouth, particularly located on either side of the pharynx or on the posterior wall, which has been there three weeks, you have either syphilis, cancer or tuberculosis, and the chances are ninety-nine in one hundred that it is syphilis. I always inquire into the general history for tuberculosis, and always have the secretion examined.

The treatment: It is the same old story, constitutional and local cleansing.

Dr. William Cheatham: I have seen a good many cases of chancre of the tonsil and have reported two or three lately, I think, before this society, and there have been several others reported to the other Louisville societies. One gentleman reported a case which occurred in one of our factories, and this patient told him there were twenty to thirty people in the factory who had sore mouths like she presented.

The books say the tonsil is next to the genital organs in location of the primary lesion. The tonsil seems most frequently the site of chancre because of the openings it possesses where the poison attaches itself. You will find in chancres of the tonsil you can make the diagnosis by feeling with the finger; you will find the base hard. Glandular enlargements are very marked, and my experience is that there is usually some fever.

I have seen reported two curious cases of secondary

syphilis of the tonsil, the tonsil was very much enlarged, and there were masses of mucous patches; one, I think, was reported by Dr. Bloom, and he was unable to get this boy under the effects of antisyphilitic treatment until after applications of nitrate of silver had been made to the tonsil, then the boy went rapidly under the influence of the usual remedies. I thought at first this was a coincidence, but soon afterward I had a similar case where it seemed impossible to get the patient under the influence of anti-syphilitic medication until application was made to the tonsil. As soon as the tonsil began to heal under nitrate of silver, the patient was gotten under the influence of internal treatment rapidly.

In regard to the third case reported by Dr. Dabney: The book states the lesions are often bilateral in primary syphilis. I do not know whether this is syphilis or not, but the tonsils are often both involved in primary lesions.

We have a local treatment which I think has been very much neglected lately. It is especially effective in old specific ulcers of the tonsils and pharynx—I refer to acid nitrate of mercury.

Dr. Carl Weidner: I shall have little to say except to reiterate some of the diagnostic features. In the first place there is an ulceration with more or less indurated base, which, as mentioned by Dr. Cheatham, is palpable. The next point laid down is pain, but it has been my experience that in these cases the ulcer is not nearly so painful as in tuberculosis or cancer. The other point is absence of fever, except we have secondary complications, perhaps mixed infections.

In regard to the third case reported by Dr. Dabney: It is doubtful whether there is a chancre of both tonsils; one may be the seat of a chancre, the other chancroid or some single ulceration; there is a question in my mind whether it be syphilis. Max Joseph states that chancre of the tonsil is usually unilateral, seldom bilateral. The general glandular swellings that come on together with the secondary manifestations are the most positive of all the signs mentioned. When glandular enlargements occur we may be sure that the case is one of syphilis, while we must admit there is doubt otherwise.

The mode of infection has been spoken of. Any instrument or tool contaminated with the syphilitic poison or pipes used by a person having the disease might be the means of communicating it. The syphilitic kiss is possibly the most frequent cause. Children at school drinking out of a common cup may be the means of spreading the disease, and this ancient custom should be abolished.

Dr. J. W. Irwin: The question is unsettled as to what one of the sores is. Dr. Coomes may have touched the keynote, it may have been chancroid; if it was a chancre it displayed the least usual form of its manifestation; it may have been a mixed infection.

It may be of interest in this connection to relate a brief account of a peculiar case I saw two years ago. The patient was a lady twenty-one years of age. She was taken with a painful throat mostly affecting the palate on one side. After a few days' sloughing occurred, preceded by intense inflammation. The slough was large enough to allow protrusion of a finger through the opening. The doctor in attendance was a specialist who had received his education abroad, and he was at a loss to know what disease could have caused the rapid perforation.

I saw the case in consultation, and as I had known the young lady, having been present at her birth, and knew her father and mother before they were married, I regarded it as syphilitic. The father infected the mother and the patient was the oldest child. She had given no evidence of syphilis up to this time, but I could only account for the trouble as an inherited syphilitic infection that caused the perforation of the soft palate. After the administration of iodide of potassium for a long time the induration melted away. When the edges of the wound became thin they were united by a fine suture and the opening finally closed.

As far as introducing syphilis through the mouth is concerned, any one can understand how it might be carried to the tonsils. The mouth is a channel of infection not alone of syphilis, but other diseases to be found for instance in drinking vessels used in public places, etc. Another source of infection is the mouth pieces of telephones. They are often found in a very foul state, and it is reasonable to suppose that some mouths are laden with bacteria of various kinds, and as all bacteria are not killed by oxidation some may find their way back into the mouths of the persons using public telephones.

Dr. William Cheatham: Some years ago a doctor from across the river brought me a little child that had an interstitial keratitis and other symptoms of syphilis; I told him it was syphilis, and he said it could not be possible, as he had known the family all his life. We put the child on anti-syphilitic treatment and the disease yielded kindly. Some months afterward the mother gave me this history: That she was lying in bed with a severe headache one day, and a neighbor woman came in and was allowed to nurse the baby, as she had a child about the same age. The baby developed a sore on the lip; it infected the mother, and the mother infected the father.

Dr. Irvin Abell: I would like to mention one case which was quite a surprise to me, the little influence mercury seemed to exert in a case of syphilis in which the lesion was particularly referable to the tonsil in the secondary stage. This man had a mucous patch on the base of his tongue and on the tonsil. He was given as high as nine grains of the protiodide of mercury daily without the least effect. Under inunctions the lesions healed rapidly.

Dr. S. G. Dabney: I do not believe there is as much induration in chancre of the tonsil as in chancre elsewhere. This is my experience. This subject was under discussion at one of the other societies recently, and that was the opinion expressed by several other gentlemen who had seen a number of such cases. We usually have some fever at the time of the glandular enlargement, and at the society meeting above referred to one well-known general practitioner of long experience reported a case of syphilis with very considerable fever (103° F.) at the time of the glandular enlargement. Most of us are not careful in taking temperatures systematically, if we were, we would oftener find at the stage of glandular enlargement some rise in temperature, which was true in the two cases I reported.

The third point I wish to speak about is the pain. I fully agree with Dr. Weidner that the comparative absence of pain is very suggestive of syphilis, whether primary, secondary or tertiary lesion.

In my paper I spoke of pain in secondary lesions when they were situated on such parts of the throat as were brought into play by swallowing; that on the tonsil and on the posterior wall of the pharynx there is not much pain.

I do not know to what extent the cure of a primary lesion can be hastened by treatment; I was in hopes that point would be touched upon in the discussion.

In the third case reported there is some doubt about

the trouble being syphilis, and if syphilis there is some question as to whether it is a primary or secondary manifestation.

Dr. M. F. Coomes: Twelve or fifteen years ago a doctor brought his wife to me with this history: He said she had been having sore throat each time she had been "unwell" for the last year. She was unwell four days before her visit to me, and at that time the whole palate on one side had sloughed out and two fingers could be inserted in the opening. Under specific treatment the wound healed and there has been no further trouble. It has always been puzzling to me what the trouble was.

Dr. J. W. Irwin: The case I refererd to was of such interest to me that I thought it worth mentioning. I met the lady at her home at a watering place; she was in good health in all respects; she weighed 136 pounds and was a fairly well formed woman. She had been in good health during her entire life. I had been the family physician for a number of years and had seen her from one to four times perhaps in each year. At all events there was never any evidence about her skin, her teeth or her hair that would lead to the suspicion that she had constitutional syphilis. When this trouble came about it was not the result of exposure to wet or to dampness; it was in midsummer. She was not exposed to hardships, she was enjoying herself and had a good appetite. She awoke one morning with a great deal of pain in her throat, was unable to swallow; the arch of the palate became very red, and upon examining it I found that there was an induration to the right side of the uvula extending from the hard palate down to within one-fourth of an inch of its margin. There was a dark red zone in the center shading out to a bright red near the sides. The specialist examined it with his laryngoscope and found a great deal of tenderness posteriorly; he also found an induration extending back into the posterior nares. There was no adenoid, no third tonsil, and he took the case under advisement and treated it. It was puzzling to him, and he had never seen or read of anything like it. Finally four or five days later sloughing took place in the center, the opening being large enough to allow the finger to be introduced through it, and the inflammation gradually receded under mild astringents and mild antiseptic washes. Under the effect of large doses of iodide of potassium, thirty grains a day at first and increased to fifty grains a day, within three months all induration had disappeared, the edges of the wound were kept clean by antiseptic washes. She was kept on this treatment for eight or ten weeks, at the end of which time the specialist brought the edges of the wound together and stitched them with iron-dyed silk, and the resulting union was perfect.

The patient has had no evidence of trouble in her throat since, but she has complained of pain in her bones especially the long bones of the legs and arms, the sternum, etc., and other evidences of syphilis of less importance.

The previous history of the case was that about one year before her father married her mother he had syphilis; he kissed the young woman and she took syphilis. I treated her for three years until I thought she was entirely cured, then sent both parents to Hot Springs, and they were six or eight weeks under treatment there. The first child (the case herewith reported) was born three years and a half after marriage. Two of the children subsequently born to these parents had evidences of syphilis; one had a syphilitic affection of the eye, which caused him to lose it altogether; another one had evidence of syphilis soon after birth in the form of a skin disease, but this young woman never had a sign of syphilis up to the time she had the trouble about the arch of the palate.

NOTES FROM A PHYSICIAN'S EXPERIENCE.

DR. M. HEINEBERG, PHILADELPHIA.

A CASE OF PNEUMONIA IN WHICH THERE ARE SEVERAL INTERESTING POINTS.

THIS patient is twenty-eight years old, a male of American birth and by occupation a printer. From his family history there is nothing of interest to be learned.

His personal history is as follows: He has indulged in the use of spirituous liquors quite freely for several years; about eight years ago he passed through an attack of enteric fever, since which illness he has enjoyed fairly good health until about two days before his admission to the hospital on November 29, when he was suddenly taken with a chill, followed by fever, a slight cough, pain in the left side of the chest referred to the precordial region; the character of such pain was sharp and intensified on deep inspiration and coughing.

These symptoms were present on admission, at which time it was observed also that the sputum was yellowish at times, rusty and mucoid. Temperature 104.4°, face very much flushed, eyes bright and anxious, tongue coated and tremulous, pulse 132 and forcible; no murmurs could be distinguished.

Examination of the lungs gave no evidence of engorgement, for they were resonant in all parts; a few moist râles being present posteriorly and in the upper lobe of left lung, a condition of affairs which could be mistaken for influenza or bronchitis.

Percussion of the abdomen revealed nothing except slight enlargement of the spleen.

The urine was clear, amber in color, contained no sugar, but a distinct layer of albumen, and microscopically hyaline and epithelial casts. About two days after admission, probably the fifth day of the attack, physical signs of involvement of the lower lobe of the left lung developed. The temperature, which had remained high, 103° to 104°, dropped within a few hours almost to normal, to rapidly rise again, so that on the evening of the following day it had risen to 104.6°, higher than it had previously been.

Soon after admission, on about fifth day of disease, a very abundant crop of herpes appeared around the mouth.

The expectoration, though scant, was at times rusty and muco-purulent, perhaps more mucous than purulent; the respirations during the six days after admission varied between 24 and 30, pulse between 112 and 132.

On the fifth day after admission the temperature, within a few hours, dropped to normal, at which stage the patient developed marked delirium and restlessness of such violent character as to make it necessary to strap him in bed.

Since the crisis, or rather rapid lysis, the pulse has been about 90 to 100, respirations 24. The points to be brought out in this case are, viz.:

Point First.—The obscurity of the diagnosis at first; this arose from the fact that the process began as a central pneumonia, the point of involvement being centrally located was surrounded by vescicular structure, hence no physical signs could be demonstrable, and it was not until the gradual involvement of the lower left lobe,

when the process appeared peripherally, about the fifth or sixth day, could the correct diagnosis be made.

In percussing the lungs too much stress cannot be laid upon the fact that it should be done thoroughly and systematically, particular attention being paid to the infra-axillary regions.

Point Second.—The appearance of the herpes on the fifth day was a distinct aid in confirming the diagnosis (it must be borne in mind that herpes are also of diagnostic value in epidemic cerebrospinal fever).

Point Third.—The temperature range was one characteristic of croupous pneumonia, and the crisis, or, in this case, the rapid lysis occurring on the ninth day of the disease, corresponds to the known fact of such process taking place on uneven days. The rapid fall in the temperature on the fifth day of the disease, followed by the steady rise to 104.6°, was a misleading feature, but is not uncommonly met with in pneumonia and constitutes a pseudo-crisis.

Point Four.—It must be particularly noted that while the fever persisted, no marked delirium was developed, but during defervescence the patient developed delirium tremens, which, as before said, necessitated his being strapped in bed and the administration of narcotics. This clinical phenomenon is one which must be borne in mind in treating pneumonia patients who previous to the attack have been free users of alcohol.

BOY ABOUT SIX YEARS OLD SUFFERING FROM CHOREA.

It was interesting in this case to note that last spring, in adjoining beds in the ward, were the present patient and another boy of about the same age suffering also from chorea. They were admitted about the same time, both treated by absolute rest, No. 1 (whom we will recognize as the patient before us) receiving Fowler's Solution in ascending doses, No. 2 receiving Fr. Cardamon. Comp. ℥1 three times a day. They both convalesced about the same time and were discharged as cured in five or six weeks. The history of the present patient on admission during the spring was that he had at one time suffered from measles, but no history of rheumatism could be made out, for two weeks prior to admission he had been sick, with symptoms of nervous twitching of left hand and foot; on examination a duplication of the second sound of the heart could be made out; however, no murmurs were present; there was slight fever, and a slight febrile movement continued for two weeks, when both it and the other symptoms yielded to the arsenic treatment and, as said, he was discharged as cured in five or six weeks.

About seven weeks before readmission, on November 27th, the choreic symptoms returned, and are now present beyond doubt. The little patient appears in perfect health except for the almost constant movements of his left foot and hand, when asked to put out his tongue he does so rapidly and as rapidly draws it back; this he repeats two or three times, constituting a symptom of partial lingual paralysis and a point in diagnosis of the condition. The nervous twitching of the hand and foot increases during his exhibition.

The treatment instituted is absolute rest and Tr. Cardamom. Comp. ℥i three times a day, under which he is steadily improving.

The next case was that of an Italian, J. B., twenty-one years of age and a mechanic by trade. He appears in perfect health, is well developed and has a good color. His previous history is that on September 9th he was admitted to the ward, suffering pleurisy with effusion of the right side, from which 20 fl. ozs. of fluid was withdrawn.

Microscopical examination of the fluid revealed that it was free from bacteria.

His temperature during this attack showed febrile movement at first, but after paracentesis had been performed it was only slight, and he was discharged on October 15th, when only a slight effusion was present.

On December 2d he applied for readmission, this time complaining of pain in the left side of the chest, increased on inspiration, no cough or other symptom indicative of an acute disease. He has a slight febrile movement with morning remissions and evening exacerbations. On inspection we find no apparent bulging of any part of the chest; the respiratory excensus is greater in the right hypochondrium than in the left. The cardiac impulse is not visible, nor is it palpable in its normal position, and only indistinctly palpable to the right of the xyphoid cartilage.

The pulse rate is rapid and feeble; percussion at once reveals a difference in the two sides. The infraclavicular region on the left side gives forth a dull percussion, in fact, almost absolute flatness extends all over the left side in front and is further extended to the right border of the manubrium sterni and even beyond the right border, lower down. The remaining regions of the right side are tympanitic; the upper border of the liver dullness is lower than normally and the lower border extends three fingers' breadth below the arch of the ribs; the area of splenis dulness extends below the arch of the ribs on the left side and Traube's semilunar space is entirely obliterated. Percussion of the back elicits a somewhat tympanic note from over the left apex with flatness below, the right lung being normal. Auscultation of the left lung reveals a faint bronchial respiration to the left of the manubrium sterni, and it is distinctly fainter over remaining portions. Intensified vesicular breathing is heard over right lung.

At the apex of the left lung posteriorly can be heard distant bronchial respiration and crepitus; lower down breath sounds are entirely absent.

The heart sounds are very weak and first sound heard best to the right of the sternum. The diagnosis is distinctly a large pleural effusion of the left side, displacing the heart to the right and depressing the liver and spleen. A point of great importance in connection with this case is that the recurrence of pleurisy so early after the previous attack, coupled with the fact that the pleural effusion in the previous attack was sterile; for it is a known clinical fact that in cases conforming to this one the pleural effusion is, as a rule, of tuberculous origin, generally tuberculosis of the pleura. The prognosis for this reason, however, is not especially grave, for recovery often occurs.

Another point to be remembered is that large pleural effusions should be tapped as soon as diagnosed, for the danger of sudden death is very great from pressure upon the heart; hence never practice delay in such cases.

The case next presented is that of a woman over forty years of age, who has been married a number of years and is the mother of several children. For the last thirteen years she has been sterile, has always menstruated regularly up to the last four months, when metrorrhagia developed.

She is a woman of the poorer class and has been obliged to earn her own living and also support her children.

During a previous pregnancy she suffered extensive laceration of the perineum, which was not repaired, and she subsequently developed prolapsus.

The metrorrhagia occurring at this age points

strongly toward malignant disease, and on examination quite an extensive prolapse is apparent, a large rectocele below and a larger cystocele above filling up the vulvar orifice; it is readily seen, therefore, that the protruding of this prolapsus by rubbing against the clothing might easily become ulcerated and cause the bleeding.

No areas of ulceration could, however, be found, and on drawing down the cervix with a tenaculum there is seen protruding from the external as a pedunculated polyp about an inch long, which is of the muco-fibrinous variety and bleeds on the slightest handling. Dilatation of the cervix and digital examination reveals several smaller polypi in the cervix and body of the uterus. The source of bleeding was thus apparent. Several of these were cut off.

The question then arose as to the choice of operations which should be performed; whether it were wiser to curette the uterus and do a perineorraphy, the usual operation, or to perform a hysterectomy with ventral suspension. The answer to the question, "Is there surgery for the rich and a different surgery for the poor?" was given in the affirmative.

Given a woman, surrounded by affluence and wealth, and she suffering from a complete prolapsus uteri complicated by polypi, it is undoubtedly the duty of the surgeon to perform a perineorraphy and curettage, for the chances of her being benefited by such operative procedure are in her favor. Given, however, a woman like the one before us, suffering from the same condition what is our duty? Bearing in mind the facts that she has been sterile for the last thirteen years that she must earn her own living by hard labor, and on every exertion the prolapsed uterus protrudes from the vagina and the broad ligaments so relaxed that even were a perineorraphy performed and the uterus attached to the anterior abdominal wall, the cystocele would still be so large as to protrude partially, is it not better to do that operation from which the woman would derive the greatest comfort and continue her occupation? The answer was in the affirmative, and the latter procedure instituted as follows, practically the regular operation for hysterectomy:

A median incision from below umbilicus to about 1½ inches above pubes; intestines packed up against diaphragm by hot gauze pads. Uterus, when pulled out of the wound, was found slightly enlarged; slight adhesions of the body and tubes to the peritoneum, which were broken up. A ligature was passed on each side beneath the round ligament about an inch from the uterus and another temporary ligature near the body to ligate the ovarian arteries; then both sides were amputated between the ligatures as far down as the internal os. The bladder was then separated from the anterior surface of the uterus, the uterine arteries ligated and cut and the uterus amputated about half way between the external and internal os. The stump of the uterus was then anchored to the anterior abdominal wall by two silk sutures. The serous membrane was whipped over the stump of the broad ligaments with a continuous catgut suture to prevent oozing.

The median incision was then closed by interrupted sutures of silk-worm gut, the muscular fascia being brought by a continuous suture of catgut. The perineorraphy was postponed on account of condition of patient.

Dr. W. H. De Well, 61 Auburndale Place, Cincinnati, O., desires information regarding "an inherited tendency or predisposition to appendicitis," and requests correspondence on the subject.

A NEW AND EFFICIENT REMEDY FOR MALIGNANT GROWTHS.

BY J. G. JUSTIN, M.D., PH.D.,

Fellow of the Monroe Co. Med. Soc., New York.

THE recent report of Professor Gaylord to the State authorities at Albany, N. Y., embodying the results of his researches into the cause of malignant tumors, has aroused widespread interest and started a train of investigation which is certain to add greatly to our knowledge of the disease.

Leaving the distinguished professor to prove his discovery and trace out the life history of the interesting parasite, if parasite it be, that from time immemorial has played such havoc with human anatomy, permit me to call the attention of the profession to what I conceive to be a far more important discovery than the cause of malignant tumors, namely, an efficient remedy for their relief, a remedy capable of lessening the mortality from this dreadful malady, and as potent in cancerous affections as the anti-toxin serum is in diphtheria.

Although the attention of the profession was called to the new agent over a year ago by its discoverer, Dr. Alexander, of Pennacook, N. H., who submitted ample evidence of its value, it has failed to attract the notice it deserves, and so far as I can determine I am the only practitioner in Central New York who has made anything like a systematic trial of its virtues.

My own experience with the "Alexander remedy" for malignant growths extends over a period of nine months; and the results have been so remarkable as, in my judgment, to justify the claims made for it by its discoverer and to remove any lingering doubt, in my own mind, that it possesses a marked curative value in cancer.

As a preliminary to a test of the new remedy I made a visit to the Alexander Sanitarium, where I became conversant with Dr. Alexander's methods and witnessed the daily treatment of a variety of malignant tumors.

On my return to Rochester one of the first cancer patients to come under my care was a man with a recurrent epithelioma of the nose and face, far advanced.

The history of this case is as follows: Two years ago the disease began as a small ulceration on the mucous membrane of the right cheek, opposite the second molar tooth, and gradually extended until it involved the gums and alveolar process of the lower jaw. At this stage his physician advised an operation, which was performed at the Homeopathic Hospital, the whole of the alveolar process, together with the diseased tissue on the right side being removed. He made a good recovery and for a time believed himself cured. Some months later, however, the disease appeared in the nose and extended rapidly to the adjacent tissues.

He was now prevailed upon to try a celebrated cancer doctor in Rochester, who claimed to have a wonderful paste that would only attack cancerous tissue. Two applications destroyed about one-third of his nose, resulting in such disfigurement that he declined further treatment.

When he presented himself to me he was a most discouraging-looking subject. The right ala of the nose was entirely gone, and a portion of the upper lip, on the right side, had sloughed away; the septum was destroyed, and the whole interior of the nose, back to and including the turbinated bones, was an ulcerated, sloughing mass, foul and offensive. His face, nose and

upper lip were the color of raw beef, and his general condition was so bad that he had given up his occupation.

I was unable to give him much encouragement, but advised the trial of the Alexander remedy for a couple of weeks, and to be guided by the result. I began his treatment by the hypodermic injection of ten minims of the fluid into the cellular tissue of the abdomen for its systemic effect, four minims into the diseased area of each cheek, and four injections of two minims each around the border of the triangular opening into the side of the nose. The dosage in the abdomen was increased five minims each day until the maximum dose of thirty minims was reached, after which the latter dose was administered every other day. The diseased tissues of the nose, lip and cheeks were injected every fourth day, using from two to four minims according to situation, and giving not more than four injections at each sitting. The ethyl chloride spray was used to prevent pain from the introduction of the needle, and no constitutional or local disturbance of any moment resulted, the fluid being readily and quickly absorbed. The interior of the nose, after being cleansed of the secretions, was washed with hydrogen dioxide and sprayed with the Alexander fluid.

The result of this treatment persisted in for twelve weeks has been the apparent arrest of the disease. The patient has gained thirteen pounds in weight, has a good appetite, is strong, and has resumed work. There is now comparatively little discharge from the nose, and it is no longer offensive. The skin covering the face, nose and upper lip has lost its red infiltrated appearance, and where there was a loss of substance there is now a distinct restitution of tissue.

When this patient came to me he was past surgical aid, the caustic treatment had failed to ameliorate his condition, and we must therefore conclude that his improvement is due to the Alexander remedy.

Mr. S., aged fifty-five years; mother died of cancer of the liver, and father of cancer of the throat. This patient was referred to me for treatment by Dr. F. O. Webber of Boston, who diagnosed his disease primary epithelioma of the tongue. Examination showed a papillary growth about the size of a silver three-cent piece, with a hardened base, situated on the anterior third of the tongue to the left of the raphé. On either side of the growth, and slightly in advance of the same were two small indurated patches of a lighter color than the surrounding tissue.

The treatment of this case was as follows: Four minims of the Alexander fluid was injected into the tongue, just outside the growth, the needle being inserted at an angle of forty-five degrees and directed toward the center of its base and penetrating well below the tumor. Ten minims were injected into the cellular tissue of the abdomen for its systemic effect. The injections into the tongue were made every fourth day, as described, until the cancer was encircled by ten injections. The fluid was administered in the abdomen every other day. Following the tenth injection into the tongue, the tumor sloughed out entire, leaving a healthy looking wound, which in ten days had healed perfectly, leaving no trace of the site of the growth. The case is still under observation, but, as yet, there is no indication of further trouble.

Other cases of cancer under my care are progressing favorably, but are not far enough advanced in treatment to enable me to report them.

The remedy is said by its discoverer to be a solution of a new organic compound formed by a union of hydrocarbons and a dimethyl ketone, to which are added essential oils, forming a solution represented by the formula $C_{21}H_{17}O_2$.

It is a clear, almost colorless fluid, with a strong aromatic odor.

But be the formula what it may, the agent has a marked specific action on cancerous disease, both local and constitutional. No deleterious effects result from its introduction into the cellular tissue, the only care required being to avoid the puncturing of important nerves and blood-vessels.

Used hypodermically in an area infiltrated with cancer cells, the fluid works a prompt transformation, the part becomes paler and less vascular, and if broken down is followed by reparative action.

Cancerous tumors, as a rule, are distinguished by great vascularity and a rapid growth. They are composed, generally speaking, of a stroma enclosing the tissue elements of an embryonic type which possess feeble vitality, being prone to undergo retrograde changes leading to ulceration and gangrene.

What is the explanation of the curative action of the Alexander remedy? In what way does it arrest the growth of malignant tumors?

It has seemed to me that it does this in the first instance by lessening their vascular supply, and in the second by a vitalizing influence on the cells themselves, or, possibly, by destroying some parasitic form of life that is responsible for the morbid phenomena. At any rate, the use of the remedy in cases where the system retains sufficient vitality to respond to the treatment is attended by a marked improvement in the condition of the patient, both local and general.

Whereas, a few months ago, I dreaded to encounter the sufferers from this disease, knowing that the resources of the healing art were powerless to afford relief, I now undertake their treatment confident of ameliorating their condition, and in cases where there is not too great loss of vitality, of effecting a cure.

In closing this report of my experience with the Alexander remedy, I am aware that my series of cases is too small to base deductions upon, but the results obtained have not been duplicated by any other known method of treatment, and they supplement a large number of cases reported by Dr. F. O. Webber of Boston.

In view of the above, I cannot too strongly commend this remedy to the attention of brother practitioners.

Wound Infection from the Perspiration of the Surgeon's Hands.—Genevet's experimental study of the perspiration, as reported by him in *Gaz. Hebdom. de Méd. et de Chirurgie*, March 3, 1901 (*Med. Rev. of Revs.*) revealed the presence of the white staphylococcus in pure cultures. He concludes that, in whatever manner the hands may have been sterilized, they should, before operation, be immersed for ten minutes in a solution of tannin, in the hope of arresting the perspiration. The strength to be employed is 20 to 1,000. The surgeon should pay attention to the degree of rapidity and abundance with which his hands perspire, with a view to antagonize this source of danger. Rubber gloves should be employed in all operations which do not demand a high degree of dexterity.

—After about two thousand experiments on animals, says the *Journal of Medicine and Science*, English investigators have decided that dilute hydrocyanic acid is the quickest and most efficient antidote to chloroform poisoning. A full dose should be dropped from a drop-tube on the back of the tongue.

THE CLINIQUE.

CLINICAL LECTURE.

BY HENRY DWIGHT CHAPIN, M.D.*

MITRAL STENOSIS.

THIS boy is six years old; family history negative. Three other children died in infancy. He had an attack of rheumatism two years ago. This attack was severe, and he was in bed for five weeks. He had another attack the first of March, which was mild and lasted only a few days. Since then he has been quite well. He now complains of pain in the chest and over the heart.

Physical signs: The child is anæmic, heart action irregular, skips every sixth pulsation. There is a presystolic sound which implies closing of the mitral valves. It is difficult for us to say positively whether there is or is not an actual stenosis. We do know there is interference with the passage of the blood from the auricle into the ventricle. We get a peculiar low, blubbering sound just before the systole. It is not a soft blowing murmur. Physicians overlook the presystolic sound, because it is called a presystolic murmur, sometimes it is a blubbering rolling sound. We know very well the sound of mitral insufficiency; it is a murmur, a blow. But where there is obstruction or a difficulty of the blood going from the auricle into the ventricle it is not a murmur, but a blubbering sound. This is accompanied by an embarrassment of the pulmonary circulation. In this case the heart seems to be unusually affected; the child has the constitutional symptoms shown by general failure of nutrition, and he always has a poor acting heart. The presystolic sound is not transmitted; it is heard generally in one place only and in a small area, perhaps not more than one inch square. In order to hear it you run your stethoscope behind the apex, sometimes inside and sometimes outside; in some place you will get that peculiar sound. In some cases the principal evidence of this faulty heart action will be in the general development of the child. The child will be undersized, will be badly nourished, anæmic, usually every evidence of faulty growth, but no local evidence of a badly acting heart. In all such cases examine the heart very carefully and you will find a certain number of instances in which the lesion is in the heart, and the evidence is in the peripheral circulation and the growth rather than in the pulmonary circulation. This boy is very small for his age (six years), and he has every evidence of poor circulation. In the lungs there are sibilant râles.

In the treatment of this boy I should incline to give him strychnine, nitro-glycerine and iron. I should try to steady the action of the heart by strychnine, dilate the peripheral arteries by nitro-glycerine and in that way establish the equilibrium between the venous and the arterial circulation; then I would give iron for the general nutrition. I would give him $^1/_{200}$ of a grain of strychnine, $^1/_{200}$ of a grain of nitro-glycerine, and four or five drops of tincture of chloride of iron three times a day. The nitroglycerine every two or three hours, keeping it up for a couple of weeks, then stopping it and beginning again.

CASE II.—ENLARGEMENT OF THE GLANDS.

Last week I spoke quite a little upon enlarged glands in infancy and early childhood, and you will remember I particularly made the point that in the great majority of cases it is an evidence of local sepsis and the proper method of treatment is to find out the source of entrance of the septic germs and clear them out instead of energetic local treatment. This baby shows you a later stage where there is actual suppuration. The baby is three months old. Had a bronchitis in February; breast fed and also fed with condensed milk. March 3d first noticed swelling at the left side of neck, at first general; later more localized. No history of a source of infection. Of course it is very evident what we have to do in this case on account of the abscess, but as a rule it is most desirable not to cut the neck unless there is a great deal of pus. Often it is the scalp, nose, ear or back of the mouth that are the entrance source of septic germs; if this source is removed the glands will go down; as soon as you begin to cut you have a cicatricial mass in the neck. Of course we will have to open this, but in the majority of cases it will not require this treatment.

Case III.—This is a case of meningitis, not an uncommon disease in infants and children in early life. The family history is negative with the exception that the grandfather died of hemorrhage of the lungs. The baby is breast fed. Another child died of a similar trouble, which the father thinks resulted from a blow on the head five years ago. The child has always been well up to three years ago, when it began to vomit and have fever. Three days ago the child began to have convulsions; temperature 104°, and had about ten spasms during the day; there was twitching of the hands, legs and feet. The child eats fairly well and the bowels are regular.

There are several varieties of meningitis in infants. (1) What you may call a septic meningitis; (2) tubercular meningitis; (3) cerebro-spinal, formerly called cerebro-spinal fever. Then there is a variety sometimes in connection with syphilis, due to gummata in the brain and, I suppose, could be called syphilitic meningitis, but the common varieties that we are called upon to treat are the septic, tubercular and cerebro-spinal. It is not always easy to make a diagnosis. I can go over the signs for you, but you know very well that it is often exceedingly difficult to make a diagnosis, but I will suggest some helpful points in connection with the differential diagnosis. Septic meningitis is due to the brain being infected by septic germs from some focus in the body; of course, the commonest type is from the ear. You have had cases, no doubt, where the petrous portion of the temporal bone becomes involved and the meningeal infection starts from the roof of the tympanum, or you may get absorption of septic germs from any other part of the body. It does not always come from the ear. A septic meningitis begins not very abruptly, rather gradually. Temperature, pains, convulsions not very early in the disease. In this case it has gone to a stage of effusion in the ventricles undoubtedy; the pupils react very sluggishly and you can feel the tense condition of the fontanelle.

Tubercular meningitis begins even more insidiously and is one of the most difficult diseases I know of to diagnose. A baby or young child at first seems to be out of sorts, easily out of temper, seized with screaming, and then appears perfectly well for a while, but it seems to get worse, very restless at night, runs a fever, begins to bore its head in the pillow and show every evidence of cerebral irritation, but, as a rule, in tubercular meningitis, convulsions come very late in the disease; that is helpful in diagnosis. If you have a meningitis and there are no convulsions until very late in the disease, the chances are that it is tubercular meningitis. Chil-

*Delivered at the Post-Graduate Hospital, April, 1901.

dren frequently get into a stupor, remaining that way for days, then they will brighten up and their parents are delighted, and it looks as if they are going to get well, and after a few hours the disease recurs worse than ever and goes on to a fatal ending. There are more remissions in tubercular than in septic meningitis; in the latter there are no little remissions; that is helpful to us in diagnosis. In tubercular meningitis there are marked remissions where the child seems to be throwing off the disease and getting well. Be careful how you hold out false hopes. The parents are assured the child is getting well, and in a day it gets worse. You often get a peculiar spastic condition of the arms and legs, although they appear to be absent in this case. The temperature of meningitis is very irregular, and you may get cases of intense meningitis with a low temperature.

Cerebro-spinal meningitis differs from the other two; it begins more abruptly. The child, previously healthy, is suddenly seized with convulsions; in the great majority of cases cerebro-spinal meningitis begins with convulsions, and those are of the most intense severity. They last for hours, and sometimes I have seen them last for a day or a week. Whenever I am called to a case of convulsions in a little child and I cannot bring the child out of the convulsions I always think of the possibility of cerebro-spinal meningitis, and I tell the parents that I believe this is a case of beginning trouble in the brain and give a corresponding prognosis.

CASE IV.—NEPHRITIS.

This boy is seven years old; condition at birth was good; bottle fed baby from birth; has always been in poor health. For the past week the mother has noticed that the baby's face had become swollen; has had no headache, no shortness of breath; appetite good; feet have been swollen; some edema of the face, moderate edema of the feet and ankles. The urine shows a heavy trace of albumin and hyaline casts; has been under treatment for about a week and the swelling has gone down. I want to call your attention to one fact, that is, I believe it is an invariable rule that you cannot have any bodily disturbance of infants or young children without the kidneys being irritated, and if the irritation keeps up, affected. I have found in the babies' wards that in a great majority of cases of gastro-intestinal disease I could get traces of albumin and hyaline casts in the urine. The same is true of pneumonias or almost any bodily disturbance. I am loath to consider a case primarily nephritis unless the symptoms are very marked. Whenever we get a trace of albumin and even hyaline casts we must not consider the case necessarily one of nephritis; it may be due to some bodily disturbance, which, when relieved, the kidney affection will likewise disappear. Assuming we have a nephritis, what shall we do? I have gotten past the stage of drugging children in nephritis very much, whether due to scarlet fever diphtheria or any other cause. I used to give large doses of the so-called diuretics; I very rarely give them now. At the Willard Parker Hospital we have a great deal of nephritis in connection with diphtheria, and I may say that the nephritis of diphtheria is very different from the nephritis of scarlet fever. In the scarlet fever you invariably get anasarca as the first type. You may also detect a case of beginning nephritis by this puffy condition. In diphtheria you never have it. The severest case of nephritis complicating diphtheria does not have this peculiar puffy condition.

As to treatment, I simply strip the child, have a blanket wrung out of water as hot as they can stand and tie them up with a dry blanket outside and give them a good sweat. I believe that is one of the easiest and most efficient ways of relieving the kidneys in nephritis. It can be done anywhere in any room. The children are also given hot injections in the bowel, which appears to have a very good effect on the kidneys when they are very much congested. Sometimes you can put in a rectal tube and give the child an injection high up. Sometimes a hot salt solution—one teaspoonful of salt to a quart of hot water. Give the child plenty of water to drink as a diuretic. Water is one of the best diuretics that we can give. With these three methods of attacking the kidneys you may relieve the urgent symptoms of suppression.

CASE V.—PNEUMONIA.

I have three types of pneumonia here—apex, broncho- and hypostatic pneumonia. A large proportion of the cases of lobar pneumonia in infants affect the apices, upper lobes, and is quite different to that of adults, where the lower lobes are generally the seat of lobar pneumonia. I will ask you to examine this case, because these are just the cases where you will be caught napping. Where you get a little patch high up in the axilla or over the spine of the scapula, you will be astonished to find very often you cannot hear it with you ear because it covers too much of the area of the little chest, but placing your stethoscope at the apex in front, instead of down below the clavicle, and run your stethoscope high up in the axilla, up and down, and then behind a little below the spine of the scapula. This form of pneumonia runs about the same course as a lobar pneumonia in adults; begins abruptly, lasts eight or ten days and then resolves, and in the great majority of cases the babies get well, no matter how sick they seem; the nervous symptoms often overbalance their respiratory symptoms. In a word, you often get convulsions, you may get symptoms simulating meningitis. Babies get into coma early in the disease. They seem very sick, but a great majority of them get well, and it does not appear to make much difference what the treatment is. The heart of a baby is relatively the strongest part of him. Babies do not die primarily of heart failure, they die of respiratory failure. Watch your pneumonia very carefully. You may find a baby going down hill very fast in pneumonia with the pulse keeping pretty good. Of course the right heart is strong in an infant. It is the right heart that gives out in pneumonia. The right heart has to push the blood through the congested and solid lung, and the right heart becomes more and more embarrassed and finally gives out.

Bronchopneumonia.—This boy is two years and three months old. Two other children died of meningitis. Whooping cough when five weeks old. Two days ago the mother noticed the baby had dyspnea; this continued to the present time with occasional slight cough; appetite good until to-day, when it became restless and had a hoarse cry. Patient well developed, vocal fremitus and dullness over both lungs, especially over the base of the left upper lobe; bronchial breathing is noticed at that point. Bronchopneumonia begins distinctly different from lobar pneumonia. Lobar pneumonia begins abruptly, bronchopneumonia begins slowly. Bronchopneumonia in this child is a secondary condition to bronchitis. Inflammation extends down the larger tubes, then to the smaller tubes and then quickly to the alveoli. It may take a week or longer for this, and in time we get a beginning pneumonia. You begin with

making a diagnosis between an extensive bronchitis and a pneumonia, or between a so-called capillary bronchitis and bronchopneumonia; you cannot make a distinction, because they are the same thing. There is no such thing as capillary bronchitis except in theory. You get rapid respiration, sub-crepitant râles, a quick pulse in pneumonia, but percussion is the least valuable physical sign in bronchopneumonia. When you percuss you often get an extra resonant note; you hear localized sub-crepitant râles, which I put as the important physical sign. As the inflammation extends down the temperature goes up. The ratio between respiration and pulse varies; normally it is about 1 to 3½; if that is markedly disturbed you are getting up pneumonia. We will assume that the pulse is 120; if the respirations are 60 there is a ratio of 1 to 2; that is the ratio of pneumonia. When the child is quiet during sleep the ratio between the respiration and the pulse runs like that, 1 to 2, you have got pneumonia. Then, quickly following, there will be heard sub-crepitant râles. We get few physical signs in brochopneumonia, for the reason that in a large number of cases the bulk of the inflammation may be in the interstitial tissue.

Here is another type, hypostatic, very common in infants; seven months old, bottle-fed, Horlick's malted milk. Family history negative, the child has always been sickly, the parents do not know from what disease. Lately the left side began to twitch, the arm and leg on that side are not moved by the child. Bowels moved only once in three days. There is paralysis of the left arm and leg, feet are edematous, feet and legs cold, tongue coated. Both lungs have sticky râles at the base. There is no temperature. Respiration 30, pulse 100. This type of pneumonia is secondary to any weak condition. In making autopsies we find that almost every weak baby has beginning hypostatic pneumonia; that is, if it lives long enough the blood congests in the lower segment of the lung from feeble heart action; there is no temperature, there is no marked increase of respiration. It is a most insidious condition. We get it in any condition, which makes the baby weak and anemic. Always be on the lookout for it. The only thing you can do is to stimulate with whiskey, aromatic spirits of ammonia, nitro-glycerine; but in spite of that you lose a great majority of cases, because in this condition they are at the end of a serious disease; this is the last chapter.

Here we have had three common types of pneumonia; the first case will get well almost surely; in the second case you can give a fairly good prognosis. The third is very poor. The first two are due to infections, undoubtedly. When we come to study pneumonia in infants, the books are not satisfactory; we do not get a sharp class of types, we get the irregular types. The lungs are unusually vulnerable in infants, and they take on trouble in secondary conditions. Many a baby dies from some assumed trouble when there is a real trouble in the lungs which has not been found out by the attendant. The more you examine the less apt you will be to be caught napping. The fact that physicians are caught napping so frequently in these cases is due to the fact that the classic types are not seen and the irregular types are common.

—Mrs. Eddy (the *Medical Age* says) is improving She now recommends the reporting of contagion, and rather than quarrel over vaccination, she recommends that if the law demands it, the individual submit, and then appeal to the Gospel to save him from harm.

CLINICAL LECTURE.*

BY L. DUNCAN BULKLEY, A.M., M.D.

CASE I. *Impetigo Contagiosa.*—This child is six years of age, and comes to us with an eruption upon the face and hands; the upper lip and mouth are covered with dry, yellow crusts. Cases of this nature are now recognized as being distinctly contagious, and they are now well defined, well identified, well separated, and called *impetigo contagiosa.* Here the diagnosis is clear, the superficial points with the crusts adherent to the surface, appearing upon the face and hands. My reason for dwelling upon this case is to enable me to bring out the feature of therapeusis. If the diagnosis is a satisfactory one, and if we have to deal with impetigo contagiosa purely, we may use the red precipitate ointment, or the following:

℞ Bismuthi subnitratis..... ½ drachm
Unguenti hydrarg. ammon..1½ drachms
Unguenti aquæ rosæ.....6½ drachms.
M. et ft. unguentum. Sig. Rub on day by day.

Later I will speak of the internal treatment.

Case II. Impetigo Contagiosa.—Curiously enough, here is another case of the same eruption. This woman is twenty years of age and has had her trouble five days. It is not often that we see this disease in adults. These cases are always recent and are found often running in families. The eruption here is seen about the mouth, and it burns rather than itches. Around the right malar region are to be found superficial crusts which burn, but without much inflammatory action and with no tendency to exudation and with no itching. This case simply represents another phase of impetigo contagiosa.

Case III. Eczema Occuring in a Syphilitic Subject.—This patient I have seen for a great length of time. He has been back and forward since 1891 with syphilis. Upon the least neglect, or when exhausted, another outbreak of syphilis occurs. To-day there is nothing distinct about it; in fact, one could not make the diagnosis of syphilis without the aid of the history sheets. He first came in January, 1891. He then had somewhat the same lesion, and has since had about the same appearance in spite of treatment. He has been working all the time. This is an illustration of the fact that an eczema occurring in a syphilitic subject, or syphilis occurring in a patient who is suffering from eczema may give us a great deal of trouble in diagnosis. This patient places his hands in the water. I said we could not make the diagnosis of syphilis from what appears there. He now has an *orbicular eczema* of both palms, quite symmetrical. Both palms and soles are involved. The lesson that this teaches is that one should not think that everything occurring in a syphilitic subject is syphilitic; this lesson has not been sufficiently recognized, and I warn you to look for other things than syphilis in a syphilitic subject.

Case IV. Palmar Syphilis.—Always give particular attention to outside lesions in skin diseases; look for the primary or early changes. Study skin diseases with the lens. Some years ago I did not use the lens, but, when in Paris, I found everybody using the lens. I first laughed at it, but now I see more and more the advantage of using the magnifying glass. If you are in any doubt at all use the lens. What I am now looking at in this case is the margin of the eruption, which, if syphilitic, would be made up of single lesions, arranged

* Delivered at the New York Skin and Cancer Hospital.

in groups or circles. Syphilitic eruptions of the palms are always made up of papular syphilides grouped together in circles. Here it is to be seen on the fingers. This man, T. R., aged thirty-four years, had chancre inoculation in 1883, sixteen years ago. Upon one palm we find what is repeatedly seen even many years after infection, and it shows us the importance of recognizing syphilides of the palm coming on late in the disease. Here is the irregular margin. One hand is perfectly well, while the other has the festooned lesion. The ball of the thumb, also at the bend of the fingers, shows the syphilitic character of the eruption.

The treatment should be both internal and external. The internal treatment should be with mercury and iodides together, rather than by the iodides alone. In late lesions the mixed treatment should be employed and pushed to tolerance. The local treatment should be the same as in non-syphilitic lesions, *i.e.*, salicylic acid, which does wonders in palmar syphilis. Or else, one could use the white precipitate ointment.

Case V. Keratosis Palmaris.—Here is a case of keratosis due to occupation largely. He has a hardening of the skin from his trade. Treatment by the use of a rubber glove helps it, but I cannot promise that it will cure the trouble. In treating this case I would advise two basins to be obtained, one filled with hot water, the other with cold; the hands should be alternately laid on one and then on the other; this alternating shock is best for these patients. The water should be as hot as can be borne. Salicylic acid comes into use in dermatology quite often and is a splendid drug. In these keratosis cases we sometimes get good results from the use of it, but sometimes it makes them worse. I have seen them made worse.

Case VI. Eczema.—Man, K. F., aged 35 years. He has a double eczema of the hands, the palms being in a thickened condition, running up to a keratosis as well. Both hands are the same. There is a little patch of eruption beneath the knee, which corresponds to the eruption upon the palms. I shall not now dwell upon the case.

Case VII. Eczema.—I wish to show you this case in order that you may know just what the hospital is doing to enable men to work. This is a case of eczema of the hands without sharp margins.

Case VIII. Eczema Parasitica.—Here is a case showing a condition about which there is now much discussion in the papers, and about which Doctor Leredde of Paris has written a book, quoted here and there, namely eczema parasitica. Unna believes in it. This man comes to us from Dr. Elliott, who is a firm believer in the local therapeusis of the disease. I am glad to be able to show you a case of eczema parasitica. I am prepared to accept a parasitic element in some of the cases. Dr. Elliott is a close observer, a close follower of Unna and a firm believer in its parasitic origin. The disease is sharply defined on the palms; the sharp cut outlines makes it different from ordinary eczema of the palms, as already shown; ordinary eczema does not have the sharp margins, but in this woman it is rather sharply defined.

A very interesting point in these cases of sharply marginated outlines is that they are all benefited by antiparasitic treatment. Rhubarb ointment acts well, using about 3 per cent. of rhubarb in zinc oxid ointment.

Case IX. Eczema Parasitica.—This is an instance of the same nature, but is a different phase of it. Both hands are involved. About the nails and toes there is thickening, with a tendency to moisture. It has been somewhat modified by treatment. He has been under the rhubarb ointment with very good effect.

Case X. Lupus Erythematosus.—This woman, aged thirty-two years, has been coming here during the past three years. Her trouble began on the forehead, then attacked the cheeks, after which patches developed in the scalp, which have denuded the surface of hairs. An eczema must be very severe to denude the hair. I do not think the alopecia will be permanent, because I can find hairs. She has been coming here for a long time, and I do not expect to cure her at once. These are very obstinate cases. The diseased parts are dry, scaly, sharply contoured, and of a brownish purple color. Will any of the gentlemen present suggest a diagnosis? There is a little patch upon both cheeks, brownish-red and sharply defined. Is it seborrheic eczema? The long duration and taking off the hair, and the fact of its symmetrical development on the cheeks, makes me suspect something else. Is it syphilis? No form of this disease would last so long without ulceration. Ringworm of the scalp is easily excluded. Alopecia areata is excluded by the fact that it does not appear on the cheek. The diagnosis now rests between seborrhæic eczema and lupus erythematosus. The former seldom presents that amount of baldness shown here. We do get lupus erythematosus, mild in form, which lasts for years, commonly coming on the scalp and cheeks and also common upon the nose. The patches here upon the cheeks are quite suggestive of lupus erythematosus, which I believe to be the condition in this patient.

I am going to give a new treatment for this disease. I will order for her one grain of iodoform after each meal, and stop all other treatment. Why it acts well, I do not know. I will soon show this case to you again.

Case XI. Psoriasis.—A. B., twenty years old, has had this eruption during the past eleven years; this is a diagnostic mark; she has had it since childhood. The disease first appeared upon the scalp. There are many exceptions to the appearance of psoriasis on the extensor surfaces; it may appear upon the abdomen, or other parts of the body. In this case there is no eruption below the waist.

She has had only the local treatment which is usually employed here, which is the white precipitate ointment with the tincture of green soap. This often removes the eruption temporarily, but cure comes only from prolonged internal treatment. Under the ordinary treatment she may have it eleven years more and even eleven years after that. Psoriasis has no tendency to wear itself out. Years ago the same could have been said of syphilis; the chancre was treated and the sore disappeared; then the eruption came out and a course of mercury was given; by and by a papular eruption appeared, disappearing under treatment; then came the tubercular eruption, etc., etc. The clinics had many patients, coming day after day, with eaten-off noses, eye lesions, brain lesions and various late lesions of syphilis. To-day we see precious little of that. We seldom see locomotor ataxia, etc., because the idea has gotten into the professional mind that syphilis should be treated for two or three years to effect a cure. I have argued the same regarding psoriasis. In private practice I know I can cure cases; I get them to keep up the treatment for several years. I believe that psoriasis, when properly treated for a sufficient length of time, is curable in a certain per cent. of cases. One must go into the matter of diet, hygiene, etc., if the cases are to be treated successfully. White precipitate ointment in full 10 per cent. strength should be applied and tincture of green soap should be rubbed in.

Case XII. Eczema.—M. McM., seventy years of age, has had this eruption on the extensor surfaces for two years. Those of you who have not had much to do with skin diseases might think this case was like the last one presented; she has somewhat similar patches on the elbow and the knee, but it is not psoriasis. The same treatment applied to this old woman would play the old nick with her and set her on fire. The eruption is red, scaly, with some exuding moisture. It is a case of ordinary eczema, or eczema rubrum, or moist eczema, or chronic eczema. No treatment has been applied as yet. Now, what shall we do for her? The best thing to apply will be Lassar's paste. Lassar, of Berlin, made a combination about the same as we use, as follows:

℞ Salicylic acid powder..... gr. xx
Starch powder .....℥ ij
Oxid of zinc .....℥ j
Vaseline .....℥ j M.

This ointment we use by the pailful in the hospital. I do not use vaseline very much, but the ingredients of Lassar's paste triturate with it so well that it is used here. The parts should be kept covered with it twenty-four hours out of the twenty-four. Let this local treatment be carried out and you will see great improvement by next week.

Case XIII. Eczema.—This woman is forty-eight years of age. During the past seven or eight months she has had patches appearing upon the back of her neck; they are circular and well defined. This is another case of eczema, which is so commonly met with here. This might be called parasitic eczema; yes, it is. These sharply defined cases are undoubtedly modified by a growth of parasites. These cases are much benefited by using salicylic acid, or rhubarb, or sulphur, or resorcin ointments. The following is good:

℞ Resorcin ..... grs. xx
Sulphur ..... grs. xxx
Unguenti oxidi zinci ..... ℥ j M.

Case XIV. Psoriasis.—This woman, a few weeks ago, had universal psoriasis. The lesions can be removed by the thorough application of chrysophanic acid, as in this instance. She was generally affected, but the eruption has cleared up wonderfully well under this treatment. Sometimes the amount of the chrysophanic acid must be increased 20 to 30 grains or 30 grains to the ounce, and I have used it in twenty per cent. strength without irritating the skin at all. This is a good combination:

℞ Chrysophanic acid..... 10 per cent.
Salicylic acid ..... 5 per cent.
Ichthyol ..... 10 per cent.
Unguent. aquæ rosæ.....100 per cent.

Case XV. Eczema.—This young lady is a trained nurse and is twenty-nine years of age. She comes to us from Connecticut. As soon as she goes to nursing her eczema troubles her; the least exposure of her hands brings out the lesions. When she stops nursing she is able to get rid of the eruption, but upon resuming her occupation the eruption comes out. So she has been unable to do anything. This is the seborrhœal form of eczema, and it improves under the use of Lassar's paste. She has had her trouble nearly all her life. I hope she will be able to stay in the hospital six months or more, so we can watch her carefully. She is benefited by salicylic acid ointment. The internal treatment of these cases I will speak of later.

Case XVI. Varicose Ulceration.—This old woman had a peculiar ulceration two inches in diameter and three inches in length. She was placed in bed and the ulcer was treated antiseptically with peroxid of hydrogen, morning and night; it was soaked in this four to five minutes, and then covered with ichthyol ointment, three to five per cent. Internally she was given diuretics and laxatives. This local treatment is largely employed in this institution and with good results. She has been in bed all the time.

Case XVII. Ulcer of Leg.—This woman presents an ulcer of a different type; it was varicose at first, but now is more of a strumous type. She first presented herself fifteen years ago in the old Thirty-fourth Street Hospital. She now comes back to us because it has broken out again. We will employ the same treatment as in the other case.

Case XVIII. Eczema of Both Palms.—This young woman is a saleslady in one of the department stores. Two months ago she had dry scaling on the hands. She got an ointment from one of the drugstores, which she applied. On October 16th she came in with both hands covered with bullæ. Something had been applied to her hands which had unduly stimulated them and gave her much agony. She went out of here in just one week with her hands well. She then placed them in water and now she again appears with a general eczema of both palms, which is acute and inflammatory.

Case XIX. Seborrhœal Eczema.—This girl had a seborrhœal eczema, which has subsided, but the palms are intensely inflamed. It is now simply an acute eczema.

Case XX. Favus.—I now want you to see some of the difficulties of dermatology. I have lectured on this case many times; I have seen her in the hospital and in my office. The nurse has epilated her hour after hour. Parasiticides have been used. Everything has been done for her, yet she still has her trouble. It does seem too bad that we cannot cure these cases even under the best conditions. I show you this case to demonstrate to you how rebellious some cases may be to treatment. The case has run a long time. Cases sometimes run one, two, three or even five years. Children with the best surroundings, sunlight, fresh air, good diet, who could not have better nursing, are just as rebellious to treatment. The magnifying glass shows you some stumpy hairs. So long as these stumpy hairs contain the parasite you can effect no cure. One hair will infect her and may infect others.

Case XXI. Favus.—Here is a case that has been brought down from the wards and shows you that we have been able to keep the disease localized; one patch is almost well. But do not think the case is well. So long as redness exists some particular hair containing the parasite may infect again.

Case XXII. Seborrhœal Eczema.—This is a curious case. This patient has been in the hospital for weeks and months, and after going out she comes back as an out-patient. She has seborrhœal eczema. The lesion is a curious one. There are scattered lesions, and they develop into pustules. Both the upper and lower limbs are involved.

—A man from New Boston, Mich., has petitioned Congress to grant him a pension for injuries received before he was born. It seems a brother, twenty years older than the applicant, was engaged in the war, and after one of the battles was reported dead. This report was afterward contradicted, but at the time the shock was so serious to the mother that her next child was born a cripple, and claims that the war and the act of the government in reporting his brother dead are responsible for his injuries.

The Medical Times.

A MONTHLY JOURNAL

OF

Medicine, Surgery, and Collateral Sciences.

EDITORS:

EGBERT GUERNSEY, M.D., LL.D. ALFRED KIMBALL HILLS, M.D.

Communications should be addressed to the MEDICAL TIMES, 180 West Fifty-ninth Street, Central Park South.
Published on the first of each month.

Changes of standing advertisements and communications in regard to that department, should be addressed to the Advertising Manager, BENJ. LILLARD, 108 Fulton St., New York.

NEW YORK, SEPTEMBER, 1901.

"Spend as much time as you can, with body and with spirit, in God's out of doors."—VAN DYKE.

TUBERCULOSIS MEDICAL CONGRESS.

THE Congress numbering some twenty-five hundred British and foreign delegates, which assembled in London in July, included many of the most eminent pathologists and physicians in the world. The Congress was opened by the Duke of Cornwall in behalf of the King. Lord Lansdown, representing the government, tendered a cordial welcome to the foreign delegates, saying: "This nation has lately been passing through all the anxieties and sorrows of a prolonged war, which had carried to many of their homes desolation, but no war which had ever been waged brought with it anything like the burdens of misfortune which tuberculosis from time immemorial had carried to every land. He trusted that the assembly of scientific men from all parts of the world would indicate the means by which, individually, this great scourge of the human race could be stamped out." One of the most important papers read at the Congress, listened to with more attention and producing a deeper impression upon the audience than any other, was that of Dr. Koch of Berlin, world-renowned as a scientist, especially in bacteriology.

Dr. Koch said his experiments had satisfied him that human tuberculosis and bovine tuberculosis were radically different diseases, and that he had amply demonstrated cattle could not be affected with human tuberculosis. The counter proposition, that human beings were not liable to infection from bovine tuberculosis, was harder to prove, owing to the difficulty of experimenting upon human subjects, but that personally he was satisfied such was the case, and he recited at length post-mortem evidence supporting this belief.

If this point were conceded, it remained to determine the chief source of contagion. Human immunity to bovine infection disposed of the belief of infection through dairy products, and he considered this source of danger so slight as to be unworthy of precautionary measures. Heredity was also an unimportant factor in the transmission of tuberculosis, though the contrary had long been believed. The chief source of danger from contagion lay in the sputa of consumptive patients, and a remedy was to be found in a law preventing consumptives from strewing contagion about them.

This so-called discovery by Dr. Koch, which is creating more or less excitement, not only in the medical world but with the public, which has been more or less impressed with the idea that germs of consumption could be communicated through cooked meat, but more especially through milk, is proved by reference to public records to be so far from a new discovery that the facts advanced by specialists over two years ago led to the abolition of the State Committee on Tuberculosis, which had been formed as a protection to the public health on the ground that the premises upon which it founded its action were wrong and the rigid penalties enforced by the law were not required.

In April, 1899, Dr. Edward Moore of Albany, the veterinary editor of the *Country Gentleman*, who had made a study of tuberculosis for more than twenty years, and written extensively editorially upon the subject, read a paper before the Albany County Medical Society in which he presented precisely the same ideas upon tuberculosis as those advanced by Dr. Koch at the British Congress. On Dr. Moore's attention being called to the subject in which reference was made to his own freely-expressed views in his address, editorials and arguments before legislative committees, he said:

"My discovery, if you want to call it by that name, was the result of years of observation, extending back a number of years before bovine tuberculosis was known by that name. I have examined a great many herds of cattle and have had an opportunity to examine not only the cattle, but to observe the families of the owners of these cattle who were making daily use of the product of the cattle as food—milk, cream, butter and meat. I could not attempt to enumerate the number of cases in which I found herds of cattle containing a large percentage suffering from bovine tuberculosis, but in not a single one of these instances did I ever see any member of a family that had been using the products from tubercular cattle who was affected with tuberculosis.

"The fact that tuberculosis was not transmittable to human beings through the medium of food, however, did not prove that it was not transmitted by infection, so I observed closely the health of the persons who had the care of diseased cattle. The attendants breathe the germ-laden atmosphere, they handle the cattle, and, no doubt, sputum from the cattle is often conveyed into their nostrils and mouths. A finer opportunity for contracting the disease could not be imagined, and yet in all of my investigations I never have found a case in which

a man having the care of tuberculous cattle contracted the disease from them.

"In August, 1899, when a legislative committee of this State was investigating the subject to animal diseases, with especial reference to bovine tuberculosis, I appeared before that committee and said: 'I predict that you will find that where cattle tuberculosis is plenty, human tuberculosis is so rare as to bear no relation to it; that while you are in the thick of bovine tuberculosis you are practically outside of the consumptive belt. But again I warn you not to accept my opinion. Go prove it right or wrong.'

"The committee completed its investigation and one of the results of it was the abolition of the Tuberculosis Committee of the State Board of Health. So you see that nearly two years before Professor Koch had declared that human beings were in no danger of catching tuberculosis from cattle we had been able to convince the authorities of this State that there was no danger of any such thing.

"There is practically no limit to the array of evidence which I have received to prove that there is no danger of the transmission of this disease from animals to man. I have a letter from Dr. L. Emmett Holt, of New York City, in which he states that in 160 cases of infant deaths from tuberculosis in only one did he find that the disease strted in the intestinal tract. An investigation of the deaths of infants who have been fed on prepared foods shows that they are more numerous than the deaths among infants who have been fed on the milk from cows, and yet these prepared foods are subjected to a temperature, in the course of preparation, that would kill all germs."

Whether further investigation will more firmly establish the truth of the new theory or not, it is evident that meat or milk from diseased cows must be prejudicial to health and should still undergo the most careful inspection.

We should expect that as a natural sequence to the line of investigation determining the cause of those fearful maladies common to every part of the world, such as the various types of malaria, diphtheria and tuberculosis, there would be discovered the law of prevention and, to a certain extent, that of cure. What is now being accomplished in the prevention and treatment of the various forms of so-called malarial troubles would extend to the destruction of the bacillus tuberculosis of consumption, whose appearance in the lungs so often sounds the death knell of the victim.

The tuberculin discovery of Koch on the treatment of tuberculosis has proved, to a certain extent, a failure, possibly because it was announced before it had been fully tested, and without sufficient care in its preparation. Mr. E. C. Getsinger, one of the most careful and minute investigators in the line of modern science, especially in biology, claims to have made a discovery in therapeutics of an agent which will thoroughly destroy every vestige of the tubercular bacilli, even in the most advanced stages of consumption, in from fifteen to twenty days. Before being given to the profession Mr. Getsinger proposes testing his remedy in some of the large hospitals in this city during the coming winter, the cases being selected by a committee of physicians whose names will be a guarantee for the truthfulness of their report. Daily bacteriological examinations will be made and every step of the investigation watched with the utmost care. Measures will be taken to secure the absolute purity of the remedy and its manufacture, in strict conformity in material and combination with the original formula.

HAY FEVER.

DURING the months of August and September, those resorts which have gained the reputation of immunity from hay asthma or hay fever are usually crowded to their utmost capacity by the victims of this terrible epidemic, which, with each return of the season, are brought under its painful influence. The idiosyncracies of individuals rendering them susceptible to certain disturbing elements which act as virulent poisons to them, but are harmless to others, is one of the strange mysteries of Nature. To one person, eggs are poison, to another cheese acts as a most violent intestinal irritant, and to another, one or two strawberries will produce all the effects of a most virulent poison. In no case is the extreme susceptibility of the human system so widely marked, and its idiosyncracies so unexplainable as in the effect produced by the pollen and aroma of certain flowers upon the air passages, producing not only an inflammatory action, but a neurosis which has heretofore seemed to defy control in any way except to remove from the direct influence of the poison. In the spring and early summer the roses, especially those rich in fragrance, produce what is called "the June cold," or rose asthma, and later in the season, particularly in August and September, the pollen of a large number of flowers, especially the rag-weed, ambrosia trifoida, then abundant in almost all our Northern fields, does its deadliest work in those susceptible to its influence.

Dr. H. Holbrook Curtis of this city, one of our most distinguished specialists in diseases of the nose and throat, in a recent paper entitled "The Immunizing Cure of Hay Fever," verified the fact that, like the scorpion which carries with it in its own body an antidote for its deadly poison, the very plants which in their pollen communicate disease of a most painful character, have in themselves the power of not only producing prompt relief, but, given to the individual, so immunize the system as to entirely prevent the irritating action of the poison. Dr. Curtis' first experiment was with a lady of pronounced neurasthenic type, who was so susceptible to the influence of flowers that she could not bear them in her room, and even passing a florist's shop would bring on a violent paroxysm. The idea of producing immunization by giving her the watery extract of certain flowers and their pollen was found to be entirely

successful. After giving her the watery infusion of roses for a couple of weeks she could tolerate them in her bedroom. Then one flower after another was added to the mixture, so that in a short time she could tolerate them all.

A point of especial importance is the fact that it is not only immunity from attack secured by this treatment but also after the onset of the pollen or flower fever and the paroxysm is at its height the attack is at once lessened and often controlled by the exhibition of the causative drug. This was found to be the case with rag-weed, golden-rod and lily of the valley.

As the rag-weed is the most abundant, and lasts from August till hard frost, it is probable that its pollen is the most common and active factor in the production of hay fever, and if Dr. Curtis' theory is correct the majority of cases may be prevented by giving from two to ten drops of the tincture or fluid extract of the ambrosia artemisia-folia in water, three times a day during the two weeks previous to the expected attack.

In concluding his very interesting paper Dr. Curtis says: "From a careful estimate from all sources of information, and from my own personal experience which covers about one hundred cases, I have concluded that cases which are dependent entirely upon rag-weed as an exciting cause, may become immunized in about 60 per cent. of the number treated. When there exists a mixed infection, and when the cases show a preponderance of asthmatic symptoms, a nasal spray of suprarenal extract may with benefit be employed. An internal exhibition of the suprarenal products is also beneficial to the dyspnea as well as to the edematous condition of the nasal mucous membrane.

"Last year's work has demonstrated that a preparation of rag-weed is in a majority of cases an adjunct of very great value in the treatment of hay fever, and it seems reasonable to suppose that perhaps a tincture of golden-rod or some other plant may be found efficacious in those cases in which the rag-weed seems to have no appreciable effect. Exactly how great a palliative this treatment will prove will of necessity take two or three years' investigation to determine, as it is impossible to get a layman to take sufficient interest in the subject to send a proper analysis of his case, and to overcome the timidity of the professional man in introducing any remedy unless he feels that his name and reputation will not suffer thereby."

CHARLES NORDHOFF.

THE passing away of the distinguished author and editor, Charles Nordhoff, removes from active work one of the most advanced thinkers, one of the clearest and most logical writers, and one of the most industrious and far-seeing editors in the ranks of journalism and American literature. Coming to this country from Germany at the age of five years, he learned in an American atmosphere the dignity of labor, and never hesitated to put mind and hands with all the energy of his nature to whatever work he wished to accomplish. The title of Baron, which rightly belonged to him, his father having been ennobled from the battlefield of Waterloo, he never employed, caring more for the honors won by himself through the work of his own brain and his untiring energy. Before he was thirteen years of age he was at work in a western printing office, but a year after went to sea and served before the mast. When he left the sea he resumed his old work as printer, passing rapidly from compositor, proof-reader and literary reader of Harper Brothers, to be Washington correspondent and editor of one of the most influential papers in the world, the *New York Herald*, where he was treated by Mr. Bennett as the *Herald's* ambassador. After years of notable work in this capacity, which brought both to himself and the powerful paper which he represented, fame and enduring reputation, he retired upon a liberal pension, which he enjoyed till his death. Our literature has been enriched by several valuable books from his pen, full of information and ripe thought. Every department of science and every work for the relief of humanity found in him a wise adviser and an earnest co-worker.

The Homeopathic Hospital in Washington was rendered possible through the energy and executive ability of Mrs. Nordhoff, seconded by the vast influence of her husband, coöperating with her in thought and deed, in this as in other works of charity so dear to the hearts of both. The life of Charles Nordhoff is an object-lesson which every young man should be proud to imitate.

WAR AGAINST MOSQUITOES.

THE health officer of the Quarantine Station, Dr. Doty, has completed the campaign which he has waged on Staten Island the last two weeks against the anopheles or malarial species of mosquito. He has discovered that in a district where malaria existed among 30 per cent. of the inhabitants the anopheles was present in large numbers. The houses were surrounded with typical breeding places for the insects, and the nearer these places were to the house the greater the number of larvæ found. Unused rain barrels, cisterns, cesspools or abandoned receptacles thrown about the premises made ideal resorts for the breeding of the infectious insects.

Large glass tubes were distributed among the houses, with the request that all the mosquitoes possible be caught. When the tubes were collected a large number of the anopheles species were found among the imprisoned insects.

In one house, where the entire family of five persons were found to be suffering with malaria, mosquitoes were caught, and it was found the anopheles composed more than one-half of this lot. Dr. Doty has these mosquitoes now in glass jars, and, as many eggs have already been laid, the transition from these to full-grown mosquitoes will be carefully watched and dissected to discover, if possible, the presence of the malarial parasite.

Dr. Doty believes his oil sprinkling device to be the only means to thoroughly destroy mosquitoes. At the laboratory tests were made with permanganate of potassium, bichloride of mercury, corrosive sublimate, carbolic acid, bromine, formaldehyde and other poisons. He was surprised to find that a solution of bichloride of mercury—$^1/_{2000}$—sufficiently strong to kill all micro-organisms, or germs, affected the mosquito larvæ slowly, some being alive at the expiration of twenty-four hours. The tests with the other poisons were about the same in effect, and their indiscriminate use in open ponds or pools would be extremely dangerous.

Petroleum oil, in quantities equal to twenty drops of oil to a gallon of water, produced perfect results. Dr. Doty is inclined to believe that it obstructs the respiration of the insect, and thus produces death. Furthermore, emanations from the oil, or its odor, are particularly repugnant, if not dangerous to the full-grown mosquito.

In summing up the results of the work Dr. Doty says that he has shown the intimate relation that exists between the mosquito and malarial fever; the true breeding place of the mosquito, which before has not been generally known, and that petroleum oil will surely and promptly destroy the mosquito larvæ, when properly applied, and that it is the only agent that can be depended upon.

In the boundaries of the district on Staten Island treated by Dr. Doty the inhabitants state there has been a positive change for the better. In several houses lamps are now lighted at night, which have not been in use for weeks, and the number of mosquitoes has apparently been greatly diminished.

MOSQUITO VS. MALARIA.

DR. HERMAN M. BIGGS, of the Health Department, has prepared a brief and practical statement of the causation and prevention of malarial fever, following the lines of recent scientific investigation in respect to the mosquito and its destruction. Professor Crassi is reported as having completed a series of experiments, lasting forty days, near Ostia, with a mosquito serum, which immunized 500 inoculated people.

Dr. Biggs' statement is in part as follows:

Recent investigations have shown that malarial fever belongs to that class of diseases which require for their transmission the active intervention of a definite kind of mosquito, that is, anopheles; this genus is not the common one of this region, but is nevertheless present in many localities.

Certain simple precautions suffice to protect persons living in malarial districts from infection, as follows:

First—Ample screening of the house to prevent the entrance of the mosquitoes (after careful search for and destruction of all those already present in the house) and screening of the beds at night. The chief danger of infection is at night, inasmuch as the anopheles bite mostly at this time.

Second—The confinement and continuous screening of persons in malarial districts who are suffering from malarial fever, so the mosquitoes will not bite them and thus become infected.

Third—The administration of quinine in full doses to malarial persons to destroy malarial organism in the blood, and persistence in the use of the remedy, even for a few weeks after apparent recovery.

Fourth—Removal of the breeding places of the mosquitoes, through drainage, filling up of holes and surface pools, and emptying of tubs, pails, etc., which contain stagnant water. These mosquitoes particularly breed in surface rainpools and surface stagnant water, where there are no fish, also exceptionally in pails, tubs, barrels and tanks of standing water, though they seem mostly to prefer natural accumulations.

Fifth—In pools which cannot be drained or filled, destruction of the mosquito larvæ by the use of petroleum, thrown upon the surface, by the introduction of minnows and other small fish, which eat the larvæ, or by both methods.

A SCIENTIFIC STUDY OF THE BACILLUS OF THE PLAGUE BY THE GOVERNMENT.

THE United States Marine Service, ever active in the service of protecting American shores from the invasion of foreign diseases, has just been spending considerable time on the study of the so-called plague and its bacillus. This is another economic question which this country must confront as a result of having large bodies of soldiers in tropical and semi-tropical countries, with the constant flow and counter-flow of troops.

Bulletin one of the Hygienic Laboratory recently published gives some highly instructive material on this subject, investigated by Dr. Milton J. Roseman. This observer comes to different conclusions from Kitasato, and writes about the viability of the bacillus. Roseman's experiments go to show that the bacillus of the plague is in no sense a tender organism, being easier to cultivate than the lanceolate coccus of pneumonia or the pathogenic streptococci. The organism does not always die in a few days, but may live under proper conditions for months and even years. Roseman himself preserved it even when dry for over four months, and in a temperature of less than 20° C.

In the Hygienic Laboratory the organism was obtained from seven diverse sources, and an attempt was made to imitate Nature for its conditions of life. In the experiments it was shown that food products may harbor the infective principle of plague, but in experience food products are not much to be feared as far as their probability of carrying the infection is concerned. Milk is the only exception to this statement, for milk and its products are good culture media for the bacillus pestis. On the surface of food the bacillus dies very quickly. Nor is the plague caused by water, although the bacillus can live for a long time in water containing organic matter, if abundantly inoculated.

Temperature has a wonderful effect upon the bacillus; it is sensitive to slight changes; it may be kept alive and virulent for a long time in the cold, even though dry, but it cannot live long when dry at the temperature of the body. High temperatures such as 70° C. are invariably fatal in a few minutes. It was this sensitiveness to temperature that gave the bacillus its reputation of being a frail organism. When kept moist, the bacillus is not so sensitive, for then it will live a long time in albuminous media at 37° C.

From these laboratory experiments it would be supposed that the plague was a disease that had its endemic foci in cold climates and should not be tenacious in the tropics. Such is only partly the truth in actual practice, however, for there are other ways of spreading the disease in tropical countries, such as by fleas, rats, etc. Sunlight kills the bacillus, provided the temperature in the sun is above 30° C.

Moist, cool garden earth keeps the bacillus alive for a long time, hence it occurs commonly in dirty dwellings; on merchandise and on mail it dies quickly, hence new merchandise is scarcely likely to carry the infection, especially in hot wather. But in clothing, bed clothes, etc., contaminated with discharges it lives long. This is the commonest source of the spread of the disease.

The bacillus may lose its virulence and yet not die at once. This is an important fact, for an attenuated plague bacillus is probably harmless to man, although it may grow in bouillon.

Gaseous disinfectants such as sulphur dioxide or formaldehyde will kill the bacillus quickly, but there must be direct contact between the gas and the germ. In other words, these gaseous disinfectants are only for the surface. In practical disinfection sulphur is more useful, for it also kills fleas, mice, rats and other forms of animal life kcapable of carrying the infection, whereas formaldehyde lacks this power. Chemical disinfectants also quickly destroy the bacillus. Bichloride, 1 to 1,000, kills them instantly; 5 per cent. carbolic acid solution in a minute. This bulletin forms a valuable contribution to medical sanitation, especially opportune at the moment.

ON SUBSTITUTION.

OUR attention has recently been called again to the subject of substitution, and while we cannot agree with our correspondent that this evil is practised as largely as his letter would indicate, there are doubtless unscrupulous druggists who will continue to defraud and cheat their patrons whenever they can get a chance, in any possible way. It is a part of the duty of a physician to be sure that his patient obtains the remedy prescribed, in the form desired, otherwise his prognosis must be doubtful.

The remedy for substitution rests largely with the physician, and he should be prompt in his dealing with it.

If an instance of substitution should come to his knowledge, it is his duty to report the fact to his local society; every member should be informed of the charge by some means and the unprincipled offender will be driven out of business, as he ought to be. Personally, we are in the habit of telling patients who are reliable druggists, so that we are rarely confronted by irregular dealing, but "where there is so much smoke, there must be some fire," and the physician, for his own sake if for no other, ought to be constantly on the alert for the substitution ember, which will burst forth when he least expects. We cannot too forcibly urge our readers to keep this subject constantly in mind, and, should occasion demand, deal with it in the most drastic manner.

QUININE.

There is no drug used so extensively in every part of the world as quinine. It is generally known that the cinchona was first discovered in South America and utilized by the Spaniards, and for a time the supply of quinine came from that country. It is not generally known even now that most of the present supply is quinine comes from Java, where the cinchona tree is not indigenous and was introduced after many failures and with infinite tact and patience by the Dutch government. The British Government supplies its army and navy hospitals from its own plantations in the Himalaya mountains.

In Java the quinine forests are planted in clearings in the jungle and are kept as free from weeds as a flower garden in this country. When a tree is six years old it is cut down and a new slip planted alongside of its roots, so that the quinine supply is never diminished. The bark is stripped from the trunk by Javanese women. They cut it into short lengths and dry it, first in the sun and later in ovens. The dry bark is then put through a crude mill, which cuts it into small bits. These are shipped in bags to Amsterdam or Bandoeng, the center of the quinine industry in Java.

At the factory the bark is mixed with an alkaloid and ground again. It is then pumped into immense tanks filled with hot crude petroleum, which dissolves the alkaloid from the bark. The oil in turn is washed out with sulphuric acid to remove the alkaloid, and the crude quinine crystallizes when it is cooled. The crystals are then placed in trays to dry. In one hundred-pound cans the finished quinine is now ready for the market.

BIBLIOGRAPHICAL.

PROGRESSIVE MEDICINE. Vol. II. June, 1900. Surgery of the Abdomen, including Hernia, by William B. Colby, M.D. Gynecology, by John Clark, M.D. Diseases of the Blood and Ductless Glands. The Hemorrhagic Diseases, Metabolic Diseases, by Alfred Stengel, M.D. Ophthalmology, by Edward Jackson, M.D.

Infant feeding is an especially important and difficult problem during the heated term. The directions formulated by one of the leading American specialists, which were first published by the Maltine Company last summer, proved of immense service to many progressive practitioners. A new edition, comprising clear instructions and a liberal number of detachable recipes, tastefully bound, can be had *gratis* by applying to the Maltine Company, Eighth avenue and Eighteenth street, Brooklyn, N. Y.

SAUNDERS' QUESTION COMPENDS. Essentials of Refraction and of Diseases of the Eye. By Edward Jackson, A.M., M.D., Emeritus Professor of Diseases of the Eye in the Philadelphia Polyclinic. Third edition, revised and enlarged. 12mo., 261 pages, 82 illustrations. Philadelphia and London: W. B. Saunders & Co., 1901. Cloth, $1.00 net.

In this edition the work has been carefully revised and very much enlarged, the contents being more complete and more symmetrical than was possible in the earlier editions. The injuries of the eye by traumation, and the ocular symptoms and lesions of general diseases have now been given a consideration proportioned to the great importance they assume in the work of the general practitioner. There has been added also an account of the application of the tests of vision required in the army, navy and railway service.

ABBOTT'S TRANSMISSIBLE DISEASES. The Hygiene of Transmissible Diseases: Their Causation, Modes of Dissemination and Methods of Prevention. By A. C. Abbott, M.D., Professor of Hygiene and Bacteriology, University of Pennsylvania. Third edition, revised and enlarged. Octavo, 351 pages, with numerous illustrations. Philadelphia and London: W. B. Saunders & Co. Cloth, $2.50 net.

During the interval that has elapsed since the appearance of the first edition, investigations upon the modes of dissemination of certain of the specific infections have been conspicuously active, and through them much new light has been shed and many novel suggestions have been made; especially is this the case with regard to the rôles of insects and rodents as disseminating factors. Wherever practicable, these views have been embodied and discussed. The sections especially on Malaria, Yellow Fever, Plague, Filariasis, Dysentery, and Tuberculosis have been both revised and enlarged.

ANNUAL AND ANALYTICAL CYCLOPÆDIA OF PRACTICAL MEDICINE. By Charles E. de M. Sarjas, M.D., and 100 Associate Editors, assisted by Corresponding Editors, Collaborators and Correspondents. Illustrated with chromo lithographs and maps. Vol. VI. F. A. Davis Co., publishers, 1901.

This volume is the last of the first series of this work, and it only requires a reference to the voluminous general index at its close to show that the promises given in the first volume have been more than fulfilled. We doubt if such a mass of well-digested literature has ever been brought together within the limits of six volumes. The work presents all the general diseases usually described in text-books, and besides what progressive features the past decade has furnished. Surgery, obstetrics, therapeutics and every other department of our profession have been handled with equal care and with the same satisfactory results. The annual presents a mirror of our profession as it exists to-day, with all the great discoveries and improvements incorporated in the text.

Lord Balfour of Burleigh, Secretary for Scotland and Lord Rector of the University of Edinburgh, will contribute to an early number of the *Saturday Evening Post* of Philadelphia, a paper of official significance on Carnegie's Gift to Scotland. Lord Balfour is one of the trustees of the millions Mr. Carnegie has given to the Scotch universities.

The borough of Queens shows the lowest death-rate of any in the City of New York, being 14.3.

CORRESPONDENCE.

COLLECTIVE INVESTIGATION OF THE INFLUENCE OF THE SILVER NITRATE INJECTIONS ON PHTHISIS.

PHILADELPHIA, PA., August 15, 1901.

To the Members of the Medical Profession:

In 1892 the undersigned began a collective investigation of the action of cold in the treatment of acute pneumonia, and there is reason for believing that this procedure, which resulted in gathering 400 cases of this disease thus treated, with a death-rate not quite 5 per cent., was an important factor in calling attention to the utility of that treatment, and in introducing it to the profession of this country. That research was based on the conviction that no remedy can be called truly successful until it has passed the exacting crucible of clinical experience, and it is now proposed to apply the same ordeal to the silver-injection treatment of phthisis, which, in a large hospital, dispensary and private practice, reaching over a period of three years, and during which many thousand injections were administered, has given me greater satisfaction than any other method that I have ever employed. In keeping with the above expressed feeling a cordial invitation is herewith extended to those members of the profession who have the inclination and opportunity to investigate this method of treating phthisis, and to whom a reprint on the subject, with full information and blanks to report cases, will be cheerfully sent on application.

THOMAS J. MAYS, M.D.

1829 Spruce street.

HOW TO SECURE PURE MILK.

The existence and work of the Milk Commission of the Medical Society of the County of New York would seem to be of sufficient public interest to call for a brief account of this movement.

Over a year ago an evening was given to a discussion of the milk problem, especially as it affected large cities; various experts from different parts of the country were present, including the Chief of the Dairy Division of the United States Department of Agriculture, and so much interest was aroused that the society determined to form a commission that should study the best methods of improving the milk supply of New York. In pursuance of his plan, the commission held a conference with the milk dealers, invitations having been extended to all the principal dealers in Manhattan and the Bronx. The friendly coöperation of the best dealers was thus earnestly sought, as it was recognized that the subject was beset with difficulties that must be solved, if at all, by the increased attention and labor of those actually concerned in the production and handling of milk as a business.

The milk that is put into a large city must be gathered from diverse and distant sources, transported many miles, and finally distributed after many vicissitudes and changes to the customer, who himself keeps it a certain length of time before its use. When we consider that all this happens to a vital fluid that is unstable in its composition, that is sensitive to many unavoidable factors, such as temperature, atmospheric effects, shaking, and, above all, to dirt and dirty utensils, we must wonder that the milk of our city is as good as it is. The milk that is daily delivered in New York comes from five States, including thirty-four counties, and comprises more than 1,250,000 quarts.

Milk is an exceedingly good culture medium for the growth of bacteria of all kinds, and modern studies

show that the presence and numbers of bacteria form a good gauge of the general condition of the milk and the care with which it has been handled. The Milk Commission decided to form a bacterial standard for the purity of the milk submitted to it, as a step in advance for the milkmen. This has been done in several cases with private companies through the country, and it was decided to extend its benefits to any dealer desiring such oversight. The Board of Health looks after chemical composition, and has lately required that milk be not too largely contaminated with bacteria. A circular was drawn up for distribution among milkmen containing the best methods to be employed in producing and handling milk, especially when it has to be transported for a long distance. The rapid deterioration of milk can be much hindered by early preventing its contamination by bacteria present in the dirt of stables, barnyards, upon the cow, and the persons of the men milking and handling the milk. Utensils that are not strictly clean also harbor and produce these minute germs. It is not maintained that many bacteria getting into the milk are always directly harmful in themselves, although infants and invalids may suffer from a contamination that will not especially affect healthy adults.

During 1900 over 6,000 children under five years died in New York City from diarrheal diseases, largely due to drinking old and contaminated milk. Milk swarming with bacteria soon turns sour, and the bacterial test shows which patrons take good care of their milk and those who do not wash their cans carefully, or their hands, and have dirty ways generally in milking and caring for the milk.

The commission has determined upon a standard of clean milk, and will certify the milk of any dealer coming up to such standard. The work of several competent bacteriologists, who have labored for the commission during the past six months, not only examining many specimens of milk, but visiting and carefully inspecting the dairy farms that produce the milk, has shown that milk up to its advanced standard can be sold in this city by observing three precautions:

First—Strict cleanliness, which includes the barns, yards, cows, milkers, and all utensils. Bacteria which get into milk by means of dirt are thus largely excluded.

Second—Rapid and sufficient cooling of the milk. The few bacteria that do get in are thus prevented from growing.

Third—Thorough icing around the milk until it reaches the consumer. The production of toxins from the growth of bacteria is thus retarded.

It is observed that an elaborate and expensive plant is not required to fulfill these conditions, but much more care than is usually observed. The commission believes that many milkmen need advice on these matters, and it is willing and able to extend such advice. Several experts have been placed at the disposal of the commission in the pursuit of this important work, an expert thus stands ready to visit any farm or dairy and recommend such changes as are required to perfect the handling of the milk. A number of such visits have lately been made, and resulted in a very great improvement in the output. The good results of this work are apparent, even when the milk has not yet reached the standard of the commission. Greater care and cleanliness are observed and changes made that are in the right direction. Three dealers can now produce part of their milk up to the standard, while others are working to attain it. The milk that reaches the required standard will be certified, as shown by a label. These labels have not yet been given out, as it has seemed best to wait a short interval to see if the standard can be maintained. A dealer may thus have this extra milk for sale, and should get an extra price above his average for it, as his farmer naturally requires more for its production.

If the public is prepared to sustain this movement they must pay a little more for what is worth much more to them. The milk dealer cannot be philanthropic at some one else's expense. The further test of this important experiment will thus rest with the public. If there is a suitable demand for the improved article, the commission will continue its work. It is believed that the public health will thus be conserved, and the death-rate among little children markedly lessened. The Board of Health is doing excellent work on the milk question, but in the nature of the case, from the limitations of the law, and the lack of public sentiment sustaining them, they cannot demand that all milk sold in the city shall have the standard of purity required by the commission.

HENRY DWIGHT CHAPIN, M.D.,
Chairman Milk Commission.
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New York, June 20, 1901.

WHAT THE STATE OF PENNSYLVANIA IS DOING TO ERADICATE THE TUBERCULOSIS OF CATTLE.*

Since the days of Villenim, who showed the communicability of tuberculosis in 1865, and that the form in cattle is essentially similiar to that of man, much progress has been made in the prophylactic treatment of this disease, so aptly called "The White Plague." Despite the recent statements of Koch, which, by the way, were grossly distorted, for the public press loves to distort medical statements, there have been many points of connection between tuberculosis in man and cattle by the efforts of the State Veterinarian, Dr. Leonard Pearson, of Pennsylvania.

The excursion of any governmental agency into the department of medicine is interesting alike to the profession and the laity, for both are equally and directly concerned. It is impossible to give in the limits of a paper all the interesting data collected and demonstrated by Dr. Pearson and his assistant, Dr. M. P. Raduel, but the general scope of the investigation, together with the resulting legislation, is of interest to all.

The State of Pennsylvania has tremendous dairy interests, and hence its people are peculiarly interested in any widespread affection as bovine tuberculosis. For a long time legislators have been ready to appoint departments and commissions to investigate the subject, and, what is better, act in a legislative body on the results so obtained.

As Dr. Pearson has pointed out, the very existence of tuberculosis in cattle has been ridiculed as the cry of alarmists or "faddists" on the one hand, or the prevalence and danger of tuberculosis has been grossly distorted on the other side. It has been his mission to endeavor to ascertain the truth, backed by the resources of a great State. Deaths from tuberculosis are so frequent that they have been accepted by a complaisant public as inevitable and unavoidable. It is only in the past few decades that attention has been called to the fact that they constitute a terrible loss on all nations, and that the State should act to stop this avoidable waste of life and substance.

Tuberculosis of cattle exists throughout the world without doubt. It varies greatly in different countries and in different parts of the country. It reaches greater

*Digested from Report just issued by the Department of Agriculture.

importance and greater dissemination where the dairy industry has grown to large proportions. In the United States tuberculosis is most prevalent in the eastern States, and especially on high-priced farms near cities where a large proportion of the cattle used are purchased, but the disease is not necessarily due to high breeding or of extensive dairying. It is an interesting and important fact that most herds are infected by animals that, although they are tubercular, appear to be healthy when they are purchased.

Tuberculosis of Cattle is Still Spreading at a Rapid Rate in Many Places.—But the only reason for the continued spread of tuberculosis is neglect to heed the available knowledge of this disease.

In Holland nearly one-tenth of all cattle killed for food are tubercular. In Berlin, 16 per cent., and in Saxony 30 per cent. are tubercular. In Pennsylvania the prevalence of tuberculosis is estimated at from 2 to 3 per cent.

Dr. Pearson's work has impressed upon him the belief that tuberculosis of cattle may, under some conditions, be transmitted to man by the use of the meat and milk products of tubercular cattle.

The natural tendency of tuberculosis is to spread without limitation. It has spread vastly in every country contaminated by it.

The *economic importance of tuberculosis in cattle* may be recognized in several ways: This disease works to the pecuniary loss of the owner of live stock:

1. By destroying animals outright, as when tuberculosis is allowed to reach its full development and kills its victim.

2. By reducing the market value of the animal, as in those cases in which the beast is sold before the disease has reached such a stage as to render it entirely unmarketable.

3. By reducing the breeding value of a herd and its general productivity.

4. By causing a waste of cattle food through feeding it to animals that cannot give an adequate return.

5. By infecting other animals, swine, calves, grown cattle, through the milk or by contact.

6. By injuring the reputation of a herd, thereby rendering it difficult to dispose of the animals or their products.

7. By destroying the enthusiasm or interest of the breeder in the maintenance of his herd at a high standard.

In respect to the first two of these points, it may be said that careful statistics gathered in Germany (Siedamgrotzky) show that the cattle industry there is taxed to the extent of 6,762,660 marks per year, as a result of condemnation of carcasses and destruction of parts of carcasses, etc., in slaughter houses; and these figures do not begin to represent the total loss from tuberculosis in that country which are estimated by Renneberger to amount to more than 90,000,000 marks annually. This is probably a conservative estimate. It is recognized that tuberculosis injures the live stock industry in Germany to a far greater extent than any other pest, and this includes such exceedingly virulent affections as rinder-pest, lung plague, foot-and-mouth disease, anthrax, etc.

In a recent paper by Professor Siedamgrotzky, one of the chief medical advisers of Saxony and State Veterinarian, attention is called to the above figures, and to other ways in which tuberculosis causes loss; to the danger to consumers of the meat and milk of tubercular animals, and the fact that this same disease is spreading at a rapid rate among swine as a result of feeding them skim milk. The paper contains the following clause: "This exhibit has shown that tuberculosis of cattle causes serious losses that are constantly increasing, to cattle owners and, indeed, to the whole agricultural interests. It threatens the swine industry and the public health, and it is necessary that it should be combated energetically without delay."

Of course, the losses caused by tuberculosis are in ratio to its prevalence, and it follows that they are proportionately less in the United States than in Germany, but without legislative control, tuberculosis will become as prevalent and as destructive in this country as in the old infected regions abroad. For example, in Saxony, 30 per cent. of the cattle killed for food are found to contain alterations of this disease. In Pennsylvania there was found one herd of 174 cattle, of which 166 were tubercular. Now that we know the cause of tuberculosis and the influences that govern its spread, it has been determined that tuberculosis is generally brought into a herd by a cow that has been a member of a tuberculous herd and has contracted tuberculosis but does not yet show symptoms of disease.

Every animal from a tuberculous herd or from an unknown source *should be regarded as suspicious* and should be tested before it is added to a herd of healthy cattle.

Tuberculosis is also caused by the milk from tubercular cows. Herds are sometimes infected by the skim milk returned from creameries, mixed skim milk should be heated before it is used for feeding purposes.

After tuberculosis has entered a herd, the rapidity with which it spreads depends upon the character of the stable and the care given to the animals. The conditions that are most favorable to the spread of tuberculosis are: Close confinement, without exercise, in a close, poorly lighted and badly ventilated stable—if the stable is damp it is still worse—dirt, dusty atmosphere and inadequate or inappropriate feeding.

The closer the cattle come in contact with each other the greater the danger when some of them are tubercular.

The conditions that retard the spread of tuberculosis through a herd are: Fresh air (good ventilation), exercise, light, cleanliness, a balanced ration of good food, absence of dust in the stable atmosphere, and partitions separating the stalls and mangers, thus keeping the cows apart.

In actual practical life, the great danger is the introduction of a tubercular animal into a previously healthy herd. Infection generally starts in this way. Probably nine-tenths of herds are infected by cows that looked healthy when purchased.

Any system of stable management that serves to bring diseased and healthy animals into intimate contact, that facilitates the deposit of tubercle bacilli within the reach of healthy cattle, that serves to favor the accumulation or the distribution of germs of tuberculosis or to prolong their life in the stable, helps to cause infection. And, further, any system of herd management that tends to reduce the vital resistance of the animal by overwork or improper nourishment, or to depress the activity of the organs or functions by insufficient use, will favor the spread of tuberculosis by preparing the soil upon which the seed is sown.

Stable Infection.—It is in the various ways enumerated that the germs of tuberculosis are liberated from a tubercular subject and become free in a stable. The conditions to which they are then subjected have a very great influence on their duration of life and their distribution to other animals. It is evident that any influ-

ence conducive to the prolonged life of tubercle bacilli in the stable favors the accumulation of these germs in quantity. For example, if a given case is discharging an average of x germs per day and the conditions as to light, cleanliness and ventilation are such as to lead to the destruction or removal of these germs in one week, there can never be more than $7x$ germs of tuberculosis in the stable that are available for the infection of healthy cattle. It, however, the conditions are such as to permit the retention of life and virulence for ten weeks (70 days), the number of germs in the stable at all times will be approximately $70x$.

It has been shown that the liability of infecting an animal with tuberculosis is increased in proportion to the number of germs that are administered to the animal by inhalation, feeding or inoculation. Therefore, since there are approximately ten times as many germs in the dirty stable that is badily lighted and ventilated as in the scrupulously clean stable that is well ventilated and flooded with sunshine, the danger of infection in the former stable is much greater than in the good stable.

Light.—The value of light lies in the facts, (1) that it has a decided germicidal action; (2) that it increases the resistance of animals to the attacks of the tubercle bacilli, and (3) that it favors cleanliness.

1. It has been shown by Migneco, Straus and others that tubercle bacilli are destroyed by light in a time that is in proportion to the intensity of the light and inversely as the thickness of their protective coating. In Migneco's experiments, sputum containing many bacilli were spread out on linen or cotton cloth and then exposed to sunlight. Subsequently the cloth was washed in sterile water and the wash water was injected into the peritoneal cavities of experimental animals. The virulence of the germs was greatly reduced in ten to fifteen hours and destroyed in twenty-four to thirty hours.

Ventilation.—A full supply of fresh air is desirable for three reasons: (1) It has a distinct inhibitory action on the growth of tubercle bacilli; (2) it increases the resisting power of the animals, and (3) it dilutes atmospheric impurities and carries them away.

Cleanliness.—The hygienic value of cleanliness can scarcely be over-estimated. Practical sanitary science is made up largely of cleanliness. If cleanliness is not next to godliness it is at least next to wholesomeness.

By keeping a stable clean, a very large proportion of all the tubercle bacilli excreted is removed from the reach of the stable occupants and thus has no opportunity to cause infection. It has been shown by Koch, Cornet and others that expectorations out of direct reach do no harm until they are dried and pulverized, thus enabling the germs they contain to enter the atmosphere. This is because such material is sticky and is attached to one spot until desiccated, unless atomized by a strong current of air. After it is thus distributed, the chances for it to reach and infect an animal are immeasurably increased. The same principle applies to tuberculous material excreted in the urine or manure. Animals are not, as a rule, exposed to direct infection from large accumulations of dung, but to the smaller quantities that dry in the passageways, on the stall-partitions or on the wall and are afterwards ground up into powder and distributed by the air. When thus distributed they may be inhaled or they may contaminate the food and be swallowed with it. The thick scales of food, expectorations and saliva that are found plastered on the mangers, feed boxes and stall-partitions in dirty stables are dangerous.

Experiments made in the laboratory of the State Live Stock Sanitary Board have shown that where the stable was occupied by tubercular cattle such material may be infectious. Accumulations in the manger, feed box, etc., are more dangerous than the dust that has floated to the upper parts of the stable.

No breed of cattle and no class of cattle is exempt from tuberculosis. It occurs occasionally among oxen and steers, and that the milking breeds do not have a monopoly of the disease is shown by the fact that some of the best Herford and Aberdeen-Angus herds in Great Britain have been sadly injured by tuberculosis.

But the most interesting question to the profession and the general public is the relation of bovine tuberculosis to public health. There is no longer any doubt that milk from tubercular cows contains the tubercle bacillus, and readily produces the disease in calves, pigs, rabbits and other animals which are fed on it. The bacilli often pass into the milk of cows which show no evidence of udder tuberculosis and in which the disease can be detected only by the use of tuberculin. All the products of milk also may contain the bacilli. They can live 120 days in butter and eleven months in cheese, They are not killed by the gastric juice during digestion. The tonsils not unfrequently become affected.

Meat is dangerous when soiled by material from softened glands or organs, and when the disease is widely generalized, especially if the intermuscular glands are involved. The blood contains the germs of tuberculosis when they are discharged into it from a local lesion.

That milk from diseased cows causes tuberculosis is indicated by the large percentage of children who have tuberculosis of the intestine, and by the fact that while the disease is decreasing in adults, it is increasing in children at the age when milk is most largely used as food.

It has been further proved that tubercle bacilli sometimes invade the blood and the parts of the animal that are eaten. In these cases, the flesh is capable of producing tuberculosis, unless it is so well cooked that all of the tubercle bacilli are killed.

The generation and symptoms of bovine tuberculosis should be known to every medical man. The following facts are to be remembered:

Tuberculosis starts in the body at any place where the germs of this disease lodge and grow. The germs usually lodge somewhere near the place where they enter, but sometimes they are carried a long distance before they settle down and produce changes in the tissues of the animal.

After tubercle bacilli enter the animal they may be carried from place to place through the tissues, or through canals or cavities in the lymph or blood. In these ways the disease spreads through the body. Any part of the body may be affected by tuberculosis.

This disease is usually slow in its development, requiring months or years for its full maturity. During a large part of this time the areas of disease are exfoliating and the germs are being discharged from the body by any channel that is in communication with the part that is diseased.

Of the usual symptoms of advanced tuberculosis the following are the most important: Cough, emaciation with good appetite, harsh coat, sunken eyes, enlarged lymphatic glands, dullness upon percussion over the lungs, sibillant and mucous râles, and, toward the end, rapid emaciation with diarrhea. Tubercular cattle usually breed irregularly.

The symptoms of tuberculosis in cattle are, as a rule, not sufficiently prominent to enable one to diagnose the disease excepting when the lesions are extensive, are interfering with the function of an important organ or are

close to the surface. An animal may have tuberculosis to a degree that renders it capable of spreading disease without showing physical symptoms.

The tuberculin test for tuberculosis depends upon the fact that when a small quantity of the reagent tuberculin is injected beneath the skin of a healthy or non-tubercular animal no effect is produced, but if the animal is tubercular a febrile reaction occurs.

Herds repeatedly tested with tuberculin during the past ten years are now in better condition than ever before and there is no reason to fear that this reagent is capable of injuring cattle in any way.

The Pennsylvania plan for suppressing tuberculosis of cattle consists in coöperation between the owners of tuberculous herds and the State, in accordance with an agreement that is designed to make permanent the results obtained.

The terms of coöperation that have been established under the Pennsylvania plan have been so satisfactory to herd owners that about four times as many inspections are asked for as can be made with the funds available for this purpose. A.

COLLAR-WILTING WEATHER, HOW TO PREVENT LINEN-WILTING.

To the Editors of THE MEDICAL TIMES:

The newspaper editors have been giving a lot of good general advice about how to avoid undue discomfort in summer; but they have left the people somewhat in doubt as to details, especially in regard to appropriate clothing. To merely prescribe "light clothing" falls short of the mark. The topic of providing a substitute for the becoming linen collar has been broached, on account of the tendency of this article of dress to wilt.

He who wears an inner suit "to absorb the perspiration" (which would be practically non-existent but for the over-thick clothing and the superfluous suit itself) ought to have it extend well up about the neck, if not over his ears(!), to save his collar from wilting. Scores of well-informed men known to the writer haven't had and will not have a wilted collar during the entire summer, simply because they have abandoned the sweat-provoking underwear. Moreover, these men smell sweet and are cleaner and sweeter-skinned, and from every point of view more wholesome for substituting a layer of fresh air for the distressful underclothing about the skin, which is a *breathing* organ and should never be deprived of its natural element.

Putting my ear to the chest of a man the other day, a man, too, who would have been called faultlessly dressed, the disgusting odor due to his sweat-saturated flannels (which had been put on fresh and sweet that very morning) almost stopped my breath before I had half sounded his heart.

Kicking at the heat while wearing two entire suits of clothes—well, really, when we look at it in a rational way, does it not seem the height of absurdity! If the public generally would act upon this suggestion it would doubtless save three-fourths of all the fatalities from heat stroke, prevent a vast amount of suffering and cheat the medical profession out of a pot of money.

CHARLES E. PAGE, M.D.

Boston, July 20, 1901.

PROBLEMS IN TREATMENT.

I. The Diagnosis of Suppurative Salpingitis from Ectopic Gestation.—This is an important subject for the practising physician, especially as the general public are extremely critical about diagnoses involving the pregnant state. Not realizing the difficulties surrounding many cases the public demands the correct diagnosis of all forms of pregnancy to be clear cut. They do not understand why this cannot always be done, and are usually very intolerant of mistakes. Hence the diagnosis of these varying conditions is of great moment, and the following case is cited to show the difficulties in the way of a proper diagnosis.

A young woman, twenty-four years of age, having been married one year and five months, and then having a supposed abortion, forms this very interesting case. She is a native of Ireland, but had been working at housework in this country for a long time. Three months ago she was supposed to be pregnant, having missed two menstrual periods. She then discharged a clot, which she supposed to be an abortion. For eleven days she had daily attacks of severe pain. When the clot appeared it was two days past the regular menstrual period. Her supposed menses then continued for two days, when she began to pass shreds of tissue. She had severe pain, causing her to cry and scream all night. A cold sweat appeared upon her face; she became faint and exhausted, not able to retain anything in her stomach. Since the passage of the clot she has discharged no solid material. Examination showed a uterus pushed to the left side, and upon the right a tender mass in the ovarian region.

The symptoms and history pointed conclusively toward a case of extra-uterine pregnancy, so an operation was performed. Upon making the abdominal section two folds of intestine were found adherent, joined by suppurating fibrous bands from acute peritonitis. A mistaken diagnosis was soon proved, although it was almost positive, as there were no signs of ectopic gestation but of suppurating salpingitis. The right Fallopian tube formed a pus tube the size of one's little finger, so it with the ovary were removed. Upon the left side the tube and ovary were healthy.

II. Prognosis and Treatment of Thrombosis Following Typhoid Fever.—Venous thrombosis, or milk leg, follows about 2 per cent. of enteric fever cases. The amount of pain is variable, it sometimes being excruciating. The greatest tension and pain is not in the thigh, where the greatest swelling exists, but in the calf of the leg. This soldier contracted enteric fever at Chickamauga, and was in bed seven weeks at Knoxville. Thrombosis of the femoral vein of the left leg followed. You see the manner in which the patient walks.

As a digression, let me say a few words about observing the way in which different people walk. Though strictly a medical practitioner and having nothing to do with orthopedic surgery, I notice the walk of the people on the streets. If they are lame or walk in any way peculiar, I ask myself the question, "What is the cause of this?" If it is a certain disease, then so-and-so would be the result. If caused by some other lesion, then such-and-such disability would follow. Cultivate the habit, gentlemen, as students and practitioners, and it will be of great help to you. It will help from the habit of closely observing things, so necessary to the physician. It will aid you in reasoning out diagnoses. This man is doing well under treatment to be outlined. There are two points to be remembered in the prognosis of these cases. (1) That they scarcely ever get *entirely* well; (2) that the swelling will persist for a comparatively long time, whatever the outcome may be. These conclusions naturally follow two conditions found in such cases, namely: (1) The affected vein is almost always a large one. This means a large clot, a serious interference with the circulation and a radical change

form old to knew condition of affairs. (2) A collateral circulation must be established to effect anything like a cure. The nearer this approaches the volume of the normal venous return the nearer perfect will be the cure. This takes time, and hence the slow subsidence of the swelling.

In the treatment of these cases leeches are worse than useless, as also are blisters. The clot is formed, and must stay there. Leeches only withdraw blood which the patient can illy afford to lose. Besides this there is a great danger of infection. A hypodermic of morphia or other anodyne should be given to relieve the pain if it is severe.

III. Study of a Case of Diabetes Mellitus Occurring in a Young Person.—Miss D. D. This young lady is nineteen years of age. She was born in Ireland, and is engaged in housework in Philadelphia. She is one of a family of fifteen children. Her father, mother, three brothers, and seven sisters are living. One sister died of asthma and three died in infancy, cause not known.

Miss D. had measles and pertussis, but otherwise has never been ill. She gives no history of traumatism or shock.

Last August Miss D. went home to visit, and three days prior to returning she became feverish, developed great thirst and dryness in the mouth. She experienced a sweetish taste in the mouth, and noticed a peculiar odor (acetone) from same in morning. Her togue and buccal surfaces were coated, of a brownish color.

She drank about five quarts of milk and water a day (twenty-four hours), always carrying a large pitcher of water to her bedside at night, which she drank during the night, and rose frequently to void urine. She also consumes large quantities of food, which fail to satisfy her hunger.

The quantity of urine voided in twenty-four hours has been between five and six quarts. She complains of pruritus pudendi.

Bowels have been obstinately constipated, and has constant eructations.

The patient has become very weak, loss of weight in last two months being forty pounds.

Menstrual flow has been suppressed for two months.

Urine, sp. gr. 1040, of a pale, greenish -yellow color. Sugar, 3.2 grs. to ʒi, or .67 per cent.

In the last twenty-two hours she has voided nine quarts of urine.

The above presents a typical case of diabetes mellitus.

It may be interesting to add that the patient has at no time experienced any colicky pains in regions of pancreas, a condition very frequently present, due to impacted calculi.

As to the treatment of this commonly occurring disease, there has been a decided reaction in the last three or four years against the strict diet in connection with it. That is, instead of keeping the patient on a diet free from starch and sugar, they are allowed a certain amount of starch properly prepared, and also a certain amount of sugar.

This is the deduction from the experience of the most noted clinicians, and is coming into general practice.

Starch and sugar seem to be the principal source of potential energy, and if entirely removed is often detrimental to the organism in excess of relief in antagonizing the disease.

Of course the improper administration of starch and sugar would be nothing but a source of harm. The best form of starch being the twice baked biscuits, crust of bread, well baked potatoes, or toast.

The boiled starches should be given with greatest precaution.

In boiling, the food is only heated to 212°, while in the baking process it is heated to the temperature of the oven, which reaches 400° or 500°.

The advantage gained in keeping up the potential energy of the patient suffering with this disease amply justifies the administration of such foods as above mentioned.

Sugar may be given in the form of fruits to advantage.

As to the diagnosis of diabetes mellitus, it is not considered a difficult one generally. The larger amount of fluids and food consumed, and the large amount of urine containing a relatively large amount of sugar, being prominent symptoms which are nearly always easily identified.

Sometimes the condition known as glycosuria may mislead one, where the urine may contain considerable amount of sugar. But the marked larger amount of urine voided in diabetes with a relatively large percentage of sugar, as compared with the comparatively small amount of urine, with perhaps a fair per cent. of sugar, should enable one to differentiate the disease diabetes from the mere symptom glycosuria, the latter not being in reality a disease, and may be brought about by an excessive saccharine diet.

SOCIETY NOTES.

RETROSPECTIVE THERAPEUTICS.

Treatment of Croupous Pneumonia with Antipneumococcic Serum.—The Pneumococcus (Diplococcus Micrococcus Lanceolatus, of Fränkel) is estimated to be present in from 75 to 90 per cent. of all cases of pneumonia. Numerous experiments by different investigators have shown that susceptible animals can be made immune to the disease by injecting serum of the blood of an animal previously artificially immunized. This same anti-infectious serum has also in a fair number of cases checked the process of the disease, when injected in infected animals. A careful study of the literature on the subject of serum therapy in the treatment of pneumonia, and the observation of cases which have occurred in his own practice, have led Dr. J. N. Snively (*Therap. Gaz.*, June 15th) to the following conclusions, which appear to embody the latest results of inquiry in this direction: (1) That the serum is harmless, even when administered in large doses. (2) That the action of the serum is favorable, especially in early cases, and markedly so where we do not have mixed infection, and where a freshly drawn serum is available, and where it is used in sufficiently large doses. It certainly lowers temperature, relieves pain, ameliorates symptoms, shortens the attack by hastening crisis, brightens the patient, and starts him earlier and more surely on the road to recovery. Any remedy to be of value in combating the onslaughts of such a rapidly developing disease as pneumonia, must be given in large and frequently repeated doses. Again, we cannot expect results if the treatment is delayed until the disease has had time to do its destructive work on the various organs, as the heart muscle or the endocardium, etc., or until we have profound toxemia. Moreover, antipneumococcic serum is supposed to combat the pneumococcus alone, and is not a general germicide, so could not be expected to have

the same effect when we have mixed infection, as where only the pneumococcus is engaged.

The freshest possible serum should be used, and used early in large doses. It is supposed to increase the leucocytes in the blood. In all favorable cases of pneumonia, Nature produces leucocytosis; if the serum has the same effect it assists Nature in restoring herself and opposing the ravages of this specific infectious disease.

Dr. William Park and others have expressed the hope that the serum will be able to prevent a general infection from taking place by reason of its anti-infectious properties. We know that many of the complications are caused by the pneumococci circulating in the blood and causing infection elsewhere than in the lungs. We know that an animal's resisting power to infection of living, virulent pneumococci can be increased many times by first injecting it with antipneumococcic serum. We also know that an animal infected with pneumonia can be saved with a sufficiently early and large dose of antipneumococcic serum. Why not man?

The Cure and Prevention of Scarlet Fever by the Use of Diphtheria Antitoxin.—C. H. Dalton (*St. Louis Med. Review*, April 6, 1901) says that two years ago he accidentally discovered that diphtheria antitoxin was an excellent remedy for scarlet fever, and later investigation proved that it was equally efficacious in preventing the disease. He has now tried it in a large number of cases, so many, in fact, that he must conclude that it is a sovereign remedy in the treatment and prevention of the disease. He has used antitoxin in over thirty cases since, and has immunized the other children in the families. None of them had the disease. None of the patients died, though many of them had the disease severely. A fact which impressed him particularly was the mild form assumed after the use of antitoxin in a number of cases which were running a severe course.

Sir Lauder Brunton on Gastric Ulcer.—In the opinion of Sir Lauder Brunton in a large number of cases of gastric ulcer the pain can be stopped almost to a certainty by the administration of carbonate of soda, with this proviso, that the drug must be given in large quantities. This effect has been noted in patients where fairly large doses of morphia have not availed to alleviate the suffering. The best way of giving the medicine is to dissolve a teaspoonful of bicarbonate of soda in lime water, adding a little spirit of peppermint, the patient to sip the solution teaspoonful by teaspoonful until the pain is gone. The reason for using lime water is that the bicarbonate of soda in plain water might possibly soften the tissues to too great a degree, and thus render a patient who has suffered from gastric hemorrhage more liable to a recurrence. To lessen the constipation caused by the lime, fluid magnesia may be given along with the bicarbonate of soda. An alternative formula to the above is: Spt. menth. pip., ℥iss; cretæ preparat., ℥ss; magnes. carb. lev., ℥j, and sodii bicarb., ℥j. A teaspoonful of this preparation should be stirred up in a half a tumbler of water and slowly sipped, a teaspoonful at a time, until the pain is removed.

Physical Exercise in the Treatment of Chronic Heart Disease.—In Guihal's opinion walking is the mode of exercise best observed in chronic heart disease. It is easy to order it progressively, and to regulate its intensity. Walking is particularly applicable to the obese. In those hearts whose myocardiums are surcharged with fat, it regulates the heart beat, at the same time diminishing the amount of fat. Horseback riding requires more restraints than walking. It is forbidden to the obese, to the atheromatous, and to those with diseased coronary arteries. Muscular over exertion must be avoided by forbidding long courses, and especially jumping obstacles. It is best adapted to the younger class of patients, espesially the nervous ones. Bicycle riding, on account of the amount of effort, particularly in riding uphill or against the wind, is not often indicated. To the young suffering from nervous affections of the heart without organic lesions, it is sometimes of use. Other exercises are generally to be forbidden, such as swimming, canoeing, dancing, skating, and gymnastics with apparatus.

Treatment of Typhoid Fever.—Stengel (*Therap. Gaz.*, November, 1900) recommends camphor as a cardiac stimulant in certain cases of typhoid fever, when the maximum of stimulation is required to combat the depression resulting from diarrhea, tympany or other causes. Camphorated oil, consisting of 1 grain of camphor dissolved in 15 minims of sterilized olive oil may be injected under the skin without pain, and with rarely any unpleasant consequences, such as induration or abscesses. The oil is quickly absorbed and the stimulation is prompt and continuous, at the same time quieting the nervous system. Injections of 1 or 2 grains may be given every two hours, although, as a rule, four hours should elapse before the dose is repeated.

Cure of Syphilitic Hydrocephalus.—Neumann (*Deut. med. Woch.*, No. 3, 1901) deports a case of marked hydrocephalus in a child five months old. Its head at birth was small, and the great increase in size had taken place principally during the past three weeks. There was a clear history of syphilis, and the child was placed at once upon large doses of potassium iodide. In a few days great improvement was noted, and after nine months the child was practically well. Neumann attributes this brilliant result to the fact that the case was seen so early, and that the hydrocephalus was entirely of syphilitic origin.

RETROSPECTIVE DIETETICS.

Rectal Alimentation.—For how long a period rectal alimentation should be administered depends upon the condition necessitating it, says Max Einhorn, in the *Post-Graduate* for July, 1900. In ulcers and irritating affections of the stomach, rectal alimentation will be administered alone without any additional nourishment through the mouth for a period varying from one to two weeks, when the natural mode of nutrition will be cautiously resumed. In cases in which there is an organic obstacle within the esophabus or at the pylorus preventing the passage of food into the intestine, rectal feeding must be carried on as long as the impediment exists (in operative cases until a few days after the operation has been performed—in inoperative cases indefinitely). Here, whenever possible, besides the enemas, small quantities of liquid foods may be given also by way of the mouth.

Shortly after operations on the esophagus, stomach, and small intestines, rectal alimentation must be administered for a period varying from four days to a week or ten days.

Before administering the feeding enema, a cleansing injection, consisting of a quart of water and a

teaspoonful of salt, should be given early in the morning, in order to thoroughly evacuate the bowel. One hour later the first rectal alimentation may be administered. The feeding enema is best injected by means of a fountain—or Davidson—syringe, or a plain, hard-rubber piston-syringe and a soft rubber rectal tube, which is introduced into the anus five to seven inches. The injection should be administered slowly, without much force. After the withdrawal of the tube from the rectum the patient is told to lie quietly and to endeavor to retain the enema. The quantity of the feeding enema may be from 5 to 10 ounces. Three to five such enemas may be given daily.

The following substances may be used as feeding enemas:

(a) The different kinds of peptones and propeptones in the market (Rudisch's or Kemmerich's peptone, somatose, sanose), of which about 2 or 3 ounces, dissolved in 6 to 8 ounces of water, are injected. The different beef-juices (Valentine's beef-juice, bovinine, Mosquera's beef-jelly, etc.) may also be dissolved in water and injected in corresponding quantities.

(b) The milk-and-egg enemas: 6 to 7 ounces of milk, one or two raw eggs well beaten up in it, 1 teaspoonful of powdered sugar, and ½ of a teaspoonful of common table salt. Pancreatin (one tube of Fairchild's pancreatin) may be added to such an enema, and will facilitate its assimilation.

(c) Meat-pancreas enema: Leube employs enemas consisting of well-chopped meat (5 ounces), fresh pancreas (2 ounces), 1 ounce of fat (butter), all these ingredients thoroughly mixed with about 6 ounces of water.

Instead of always using one and the same nourishing enema the above compounds may be alternately administered.

In conjunction with these food-enemas, injections of water into the bowel are made in order to increase the amount of fluid in the system. These injections of water for absorption are of great importance. Usually saline solutions are employed, in quantities varying from a pint to a quart which may be given twice a day.

Diet During Lactation.—Temesvary (*Monats. f. Geb. u. Gynaek.*, November, 1900) dieted 216 women who were suckling. He subjected each woman to six changes of diet, each continued for four days. The dietaries were: (1) The subject's ordinary mixed diet, (2) milk diet, (3) diet chiefly vegetable, (4) diet chiefly meat, (5) liberal mixed diet, (6) ordinary mixed diet with about a pint and a half of beer daily. The milk was most freely secreted under the liberal mixed diet, and its relative proportion of fat was largest under the generous allowance of food. Ordinary mixed diet came next, and last came vegetable and animal diet.

Iron in Human Milk.—Friedjung, at a recent meeting of the Vienna "Gesellschaft der Aertze," read an exhaustive paper containing the results of his examination of the milk of twenty-one females during the period of lactation. He finds that healthy females have a small but constant quantity of iron in the secretion varying in amount from 3.52 to 7.21 milligrammes in a liter of milk, the average being 5.09 milligrammes. The better the condition and feeding of the mother the greater the amount of iron present. The reduction of the iron in the secretion is not gradual, but sinks rapidly at the end. The average in seven females during the month was 5.8, the average of five during the second month was 5.25, of four during the third month 4.92, of two during the fourth month 5.33, and of one during the tenth month 3.64 milligrammes per liter.

Unhealthy surroundings, age, and chronic disease are all important in reducing the quantity of iron.

The author also finds that the milk of healthy mothers with a low quantity of iron causes indigestion, malassimilation, and general disturbance in the offspring. Artificial foods he condemns as quite unfit for feeding, as the best milk preparation he has examined contained only 2.58 milligrammes of iron, which is lower than the worst female milk examined.

Laryngismus Stridulus.—Fischer (*Kinderarzt*, January, 1901) states that he cured fourteen cases of this trouble by withdrawing milk from the infant's diet. He found that such infants could be fed with farinaceous foods to greater advantage.

JOINT SESSION PRACTICE OF MEDICINE AND HYGIENE AND SANITARY SCIENCE.

Dr. T. J. Happell of Trenton, Tenn., read an interesting paper on "Further Report on Pseudo or Modified Smallpox." At the Atlantic City meeting of the Association, last year, he reported to the Section his experience with 300 cases of pseudo, or modified smallpox, which he had made from a bedside study of the cases in all stages of the disease. This paper dwelt upon some of the anomalies met with in 400 cases that had recently come under his observation. In many cases the disease was not communicable. Many persons that had been vaccinated had the disease, while many that had not been vaccinated escaped the disease. He considered the diagnostic points between this epidemic that occurred in Gibson County, Tenn., and variola vera of the writer's prior to 1895. He asked whether this could be called variola vera, or was it a hybrid? He presented the following differential points for the consideration of the Section: In the modified form there did not appear to be any prevailing types of the disease; they had the same general character, differing in degree only; the incubation was from fourteen to eighteen days. In smallpox the types were varioloid, discrete, hemorrhagic and confluent, and the incubation period was from fourteen days to twenty-one days.

Symptoms.—From the first day to the third day.—In the modified form, at the onset the patients complained of cold; they felt as though an attack of grippe or tonsillitis was coming on. Temperature, 102-105°. Little or no vomiting; pulse rapid and full; little or no prostration; no delirium; no convulsions in the young. In a few cases there may be sleeplessness. In smallpox the onset is sudden, with violent chill, persistent vomiting, agonizing pains in the back and limbs and head. Temperature 103-104°; pulse full, strong and rapid; prostration great from the onset; eyes injected; sleeplessness, delirium and convulsions in the young. *Third day.* In modified smallpox no coarse, red spots appear. In smallpox coarse red spots appear on the lips and forehead. With the appearance of these spots the temperature falls to the normal and the patient is comfortable. *Fourth day*—In the modified form the eruption appears, whose character is generally that of an acne. In some instances the shop-like papules appear, but it is rare. The temperature falls to the normal and the patient invariably gets up, if he has gone to bed, and he states that he is well. The eruption first appears on the face; in men, about the forehead, cheek and chin; in women and children, irregularly about the

face. There is usually a sore throat. In smallpox the small red spots appear on the forehead at the juncture of the hair, and is followed by their appearance on the extremities. Papules follow the red spots. They have a shot-like feel. *Fifth day.*—In the modified form the acne-like eruption develops into vesicles which assume an opalescence at once. These vesicles are unicellular and are not umbilicated. The serum which exudes at their apices dries and turns brown, which, in some cases, gives them the appearance of umbilication. There is no puckering of the vesicle at its border. The temperature is generally normal unless it rises from abscesses or other causes. The vesicle may dry up and the disease may be then said to have aborted. A rapid recovery follows. In smallpox papules appear on the wrists and forehead. *Sixth to the ninth day.*—In the modified form the vesicles become filled with an opaque lymphoid fluid; in some cases with a brown necleus in the center, which gives it an umbilicated appearance. This vesicle, with its opaque fluid, miscalled pus, shrinks to one-half its diameter and becomes a thin brown scab, perfectly circular. There is no stench. The patient is well after the appearance of the eruption and insists upon getting up and having plenty to eat. If the eruption is copious he looks bad, but he will tell you that he is all right and feels good. The eruption in a few cases affects the conjunctiva. There is no secondary fever. From this time on it is simply a matter of scabs falling off. By the tenth day the patient is entirely well. If the eruption spreads over the entire body he may not be clear from scabs until the fourteenth day. In true smallpox the vesicles appear in place of the papules and the eruption spreads gradually over the entire body. The vesicles are umbilicated and multilocular. On the eighth and ninth days the vesicles become pustular and each is surrounded with broad red bands or efflorescence, the features become distorted, there are several rigors and fever, the original symptoms appear, stench is beginning, etc. There is great delirium and convulsions in the young. This is the critical period. *Tenth to twelfth day.*—In smallpox the pus oozes and forms scabs, and the stench is particularly bad. *Seventeenth to the twenty-first day.*—In smallpox the scabs drop off, leaving red glistening pits, which soon become white. Ulceration is deep, reaching the corium. Ophthalmia is generally present. Pustules pervade the mouth, larynx, pharynx and trachea. Petechiæ form on the lower part of the abdomen and inner aspects of the thighs on first and second days in some cases. *Papules.*—In the modified form papules, when present, are the same size as in smallpox, perhaps a little smaller, but fewer in extent. There may be no papules. Vesicles range in size from the head of a pin to the size of a split pea. They are not umbilicated and, when punctured, collapse. The vesicle is unilocular. Convalescence begins on the appearance of the eruption. The so-called pustule does not extend into the derma. The epidermis is the only structure of the skin involved; there is, hence, no pitting. The vaccinated take the disease. In smallpox the pustules are about the size of No. 4 shot and have a translucent appearance, encroaching on the entire body, including the palms and soles. It appears first on the face and hands. Vesicles are umbilicated and multilocular. So is the pustule, and neither will collapse in toto if pricked with the needle.

Dr. W. L. Beebe of St. Cloud, Minn., read a paper entitled "The Old and the New." He said that he had been identified with two epidemics (twenty years apart) and though they were evidently both species of smallpox they were dissimilar in many characteristics. He thought that many of the recent cases of smallpox had been diagnosticated chickenpox.

Dr. Louis Leroy of Nashville, Tenn., read a paper on "Remarks Covering the Sanitary Features of Smallpox." In the event of an outbreak he said that a competent physician should be placed in charge and given absolute power to act; he should communicate with Boards of Health; he should have police backing if necessary. Daily official reports should be made daily to the newspapers, stating the exact condition of affairs. Smallpox treatment in private he considered a makeshift; complete and perfect isolation he insisted upon. All articles should be disinfected in the usual manner; everything possible should be destroyed by fire after the patient had been discharged as cured.

In Tennessee, this year, he had introduced on a large scale the hypodermic needle as a means of vaccinating. He had first tried this method in Philadelphia in 1895, using then the aqueous solution; he now uses the glycerinated lymph. A solid pistol needle was used. The skin was cleansed in the customary manner and the needle inserted into the skin, not through it, and a drop of the lymph was forced between the epithelial cells and it diffuses at exactly the locality required. It had many advantages; in cases of compulsory vaccination it cannot be washed off; there is absolute freedom from infection at the time of vaccination; it is painless and no immediate dressing is necessary.

Dr. Heman Spalding of Chicago read a paper on "The Diagnosis of Mild Smallpox as in the Present Outbreak of the Smallpox in this Country." On February 15, 1899, smallpox was introduced into Chicago from Cincinnati; in the seventeen months following there had been 72 cases; 25 of these from direct importation. For a period of three and a half months the city was entirely freed from the disease. Then another outbreak occurred. These two outbreaks gave him an opportunity of studying 310 cases in Chicago, in the Isolation Hospital:

1	hemorrhagic case	died 1
13	confluent cases	died 3
24	semi-confluent cases	died 2
54	severe discrete cases	died 0
179	mild discrete cases	died 0
39	modified form of cases	died 0
310	cases	died 6

He did not think the term varioloid should be used. Many persons were under the impression that varioloid was not smallpox, and think that if they are taken to a smallpox hospital while sick with the former they will contract the latter disease. It was a useless term and should be discarded. In Chicago they placed all patients, whether afflicted with hemorrhagic, confluent, or so mild that they would go to work unless prevented, into the same wards in the hospital. Two hundred and seventy-one of the cases reported had never been vaccinated. None of those afflicted with the mild form of disease contracted smallpox from the severer typical cases in the wards where the exposure had been long and certain. The mild form of the disease gives immunity from smallpox, and yet will transmit typical confluent, or hemorrhagic smallpox, of which he had abundant proof in Chicago.

Dr. H. M. Bracken of St. Paul, Minn., read a paper on "Variola." In the State of Minnesota there had been reported 7,211 cases of variola, with 49 reported deaths during the past two and a half years. He did not think we could be governed in our diagnosis of all cases

in this present epidemic by the usual text-book description of variola. Typical prodromal symptoms may be present, but the rash may vary in degree, in form, in type of progress, and in final disappearance in a way that is described in but few text-books. He asked if vaccination protected against the disease. Of 662 cases in 244 houses, but 10 patients had been successfully vaccinated at any time prior to their infection, and of these 10 over 30 years had elapsed since successful vaccination for 2 of them, over 25 years for 4 of them, 20 years for 1 of them, and 6 years for 1. The Chicago Board of Health made the following statement: "Out of a total of 171 cases of smallpox found in Chicago between November 30 and April 10, 1901, 140 had never been vaccinated. Of the remaining 31 cases, 29 were adults showing faint, poor or irregular scars, claimed to be evidence of attempted vaccination in infancy or childhood, the most recent being twenty-three years old. Only 2 out of the 171 cases exhibited scars of successful vaccination." Since vaccination had been made compulsory in the schools of Chicago smallpox had disappeared from them. The degree of immunity depends upon in part, at least the intensity of the infection. Marson gave a death rate as follows among those who have been vaccinated: One cicatrix, 7.73 per cent.; two cicatrices, 4.7 per cent.; three cicatrices, 1.95 per cent.; four or more cicatries, .55 per ent.

NEW YORK OBSTETRICAL SOCIETY.*

Prolapsus Vaginæ et Uteri Following Ventro-Fixation of the Uterus.—By Andrew F. Currier, M.D.—The following case is reported not only because of its intrinsic interest and peculiarities, but because of its bearing upon a form of operation which has been much in vogue in recent years.

Mrs. H., fifty-four years of age, was seen by me at the Ossining Hospital, Sing Sing, N. Y., March 14, 1901. She was tall and very thin and anemic; had passed the menopause five years previously and complained of great difficulty in walking, also in relieving her bladder and rectum. Upon examination her vagina was found entirely everted, the tumor exterior to the body containing the uterus, bladder and rectum. On the posterior vaginal wall, extending backward from the os uteri was a deep circular ulcer of the diameter of half a dollar. There were also erosions on various other portions of the vaginal mucous membrane. I resolved to remove the uterus and restore the vagina and other organs to their proper position.

The vagina was separated from the uterus by a circular incision with the Paquelin cautery knife behind the area of ulceration. The bladder and rectum were dissected away from their vaginal attachment, and the uterine arteries and veins were isolated, ligated and cut. The peritoneal cavity was opened anteriorly and posteriorly. The uterus was then pulled downward, and with two fingers in the posterior peritoneal opening I endeavored to locate the fundus uteri. This I was unable to do. A sound was then introduced into the uterus; it passed about an inch, met an obstruction, which it passed with light resistance, and then passed eight inches from the os uteri before firm resistance was encountered. Fearing that the uterus had been perforated, I examined the abdominal wall and observed that it yielded whenever traction was made upon the uterus. Closer examination revealed a linear scar in the median line of the abdomen, and inquiry elicited the fact that the uterus had been attached to the abdominal wall at the Woman's Hospital nine years ago. The uterus was removed three inches from the os uteri, a ligature being carried through either half of the lower extremity of the stump. A purse-string suture was then carried around the edge of the vaginal wound, drawn together and its ends passed through the stump of the uterus and tied. A plastic operation was then performed upon the posterior vaginal wall, its caliber being thus greatly narrowed and the vagina pushed back into the pelvis. As the stump of the uterus retracted the vagina was drawn back also, and it was hoped that this retraction, with the narrowing of the vaginal wall, would effect the desired cure. Such a condition resulting from ventro-fixation is to me unique. In conversation with Dr. Edebohls, he informed me that he had seen three such cases.

If, therefore, it is possible that the uterus, after such an operation, should be capable of distension to such an extreme degree, it becomes pertinent to inquire whether some other form of operation might not be preferable to this in cases in which it is sought to remedy a dislocated condition of the uterus.

The mere fact that ventro-fixation of the uterus may not prevent the prolapse of the vagina, rectum and bladder ought to be taken into consideration in weighing the advantages and disadvantages of the different methods of operation upon the dislocated organ.

Ectopic Gestation and an Ovarian Cyst on Same Side.—Dr. A. Brothers presented the history of the following case: Annie Chaines, 27, dressmaker, eleven years in this country, a Russian, was admitted on the 6th of May. Her family history is negative; married eight years ago, had four children; first, one year after marriage, last was instrumental nine months ago and is nursing it at present. Has always been perfectly well except an occasional leucorrheal discharge. Four weeks ago she was seized with severe abdominal cramps followed by bleeding from uterus; these symptoms continued for five days. A week later they again appeared and are now present. Cramps are so severe that she fainted three times on the 5th inst. Also complained of retention of urine, exhaustion, constipation, etc. Her pulse was 90, temperature 98.4°, respiration 24; tongue coated; heart, lungs, liver and spleen are normal. Abdomen is pendulous and flabby; dullness over right iliac fossa and also tender and resisting. On vaginal examination cervix has a bilateral laceration, uterus is retroverted; a mass the size of a small orange is felt through the right fornix, tender on palpation; left adnexa are normal; urine is negative.

On the 8th inst. patient was anesthetized with ether, placed in Trendelenburg's position; an incision about five inches made in the median line down to the peritoneum. On opening peritoneal cavity the abdominal contents could be seen covered with blood-clots and free black blood. The right tube was distended with blood, and near its Fallopian extremity a blood clot was found, which was evidently the one which escaped from the distal end of the tube. Upon lifting up the tube another large irregular mass was felt in the right pelvis. This proved to be a large ovarian multilocular cyst. Tube and cyst were tied off by a No. 3 catgut and removed. The blood and clots were now removed, cavity wiped dry and each layer of abdominal cavity sewed up separately. Patient continued well with a normal temperature and is now doing well (seventh day).

*May 14, 1901.

—In injuries to the eyes from lime, Stutzer states that water poured from a small spout of a coffee-pot is best for the purpose of rapid relief.

MISCELLANY.

—Ten blind physicians, it is said, are active practitioners in the United States.

—It is a fact not generally known that girls or boys from families where there are no other children are almost always below the average in health and vitality.

—Dr. Walter Myers, of the Liverpool School of Tropical Medicine, who has been carrying out investigations of yellow fever, has fallen a victim to his scientific devotion.

—The bill giving the New York State Board of Health power to regulate the type and leading of books, newspapers, and serial literature, to protect the public eyesight, has been reported favorably by the Public Health Committee of the Assembly.

—In the list of candidates for the post of interne of the Paris hospitals who have been successful in the recent examinations there occurs the name of Mlle. Marthe Francillon-Rouville, who gained the fifty-second place among more than 600 competitors. This lady is, according to the *Progrès Médical*, the first Frenchwoman who has obtained the much-coveted title of interne des hôpitaux.

—The well-known Austrian scientists, Professor Loeffler and Dr. Uhlenhuth, announce that they have discovered a serum which will protect animals against the foot-and-mouth disease. This serum affords to animals inoculated with it immunity for from four to eight weeks against infection from the disease. As soon as Drs. Loeffler and Uhlenhuth receive the authorization of their government the new remedy will be placed at the disposal of the public.

—The Czar has ennobled Dr. Zambaco Pasha of Constantinople, and at the same time conferred upon him the Grand Cross of the Order of St. Nicholas, with the title of Court Councillor. These distinctions have been bestowed on Zambaco Pasha in recognition of his great services to science. Zambaco Pasha is a foreign associate of the Paris Académie de Médecine and a member of the St. Petersburg Academy of Medicine.

—A bill regulating the practice of osteopathy has been favorably reported upon before the Connecticut Legislature. The bill provides for a committee of three osteopaths of good standing, to be appointed by the governor, whose duty shall be to examine candidates in anatomy, physiology, pathology, obstetrics, minor surgery, and the principles and practice of osteopathy, and to issue licenses. No osteopathic physician can prescribe drugs nor practice surgery.

—The Czar of Russia has paid a graceful tribute to the medical profession of that country. He has decreed that all physicians giving instruction to the sisters of charity in Red Cross institutions, and all who are connected with dispensaries or other institutions in which the poor are treated free, shall have the rank of officers in the imperial service with all the privileges thereof.

—Doctors in France are heavily taxed. They have to pay what is called a *patente*, just as if they were engaged in business, and this is equivalent to about one-sixteenth of the rent they pay. Moreover, if they have a house outside their office, they are also obliged to pay for the latter. In case they practice a few months in a watering-place, they are obliged to pay where they practice and also where they live the rest of the year.

—Professor Necker, in *Jour. des Practiciens*, states that the following combination possesses sufficient antiseptic properties and is a splendid lubricant for instruments to be introduced into the vagina or urethra:

℞	Corrosive sublimate	$^{5}/_{10}$ gr.
	Water	6 dr.
	Powdered soap	1½ oz.
	Glycerine	6 dr.

M. Sig.: Application to instruments.

—Says Dr. J. C. Culbertson: All that is known of the entire materia medica, as well as other resources in the art and science of medicine, is as wide open to the command of one physician as of another, and the difference between them is founded upon but two accomplishments: Ability to diagnose pathological conditions and a systematic use of personal influence in the treatment of disease. All other therapeutic aids are merely valuable adjuncts.

—Patients as well as practitioners are familiar with the suffering entailed by the removal of gauze dressings, these having the drawback of adhering very closely to granulating surfaces, owing to their loose texture. Dr. Von Miculicz suggests an easy means of obviating this disadvantage, viz., by wetting the dressing with oxygenized water. This provokes a copious evolution of bubbles of gas, the mechanical effect of which is to free the gauze and allow its removal without causing pain. The method is so simple as to deserve the notice of surgeons.

—The following is recommended in *Medical Council*, as the only right way of giving a hypodermic injection: Pick up the entire fleshy mass between the skin and the bone in the less tender part of the upper limb, the back, upper arm or shoulder, and push the needle directly through at right angles to the skin. It should be done with a quick stab, and made to enter the muscle mass. The fluid is then gradually pushed home, after which the needle is withdrawn quicker than it went in, the puncture site being massaged for a moment for the double purpose of obliterating the needle track and promoting absorption of the injected liqor. "The patient does not mind it. We have never had an abscess in twenty years' work."

—A consular report illustrates what has already been accomplished in Italy in allaying the ravages of malaria there. The Mediterranean Railway Company has equipped all stations and employees' houses in malarial districts with mosquito-proof screens, and those who are obliged to be out after nightfall are provided with mosquito-proof clothing. By this means the railway company has secured complete immunity for its servants and their families, even in the worst localities, as Battipaglia and San Nicola. Formerly an appointment to these districts meant little less than a death sentence, and no man could hope to have his family with him. The families have been perfectly healthy in these protected houses.

ORIGINAL ARTICLES.

MODERN VIEWS ON PARESIS.

BY D. K. MILLS, M.D., PHILADELPHIA.

GENERAL paresis is the product of our modern civilization; it may even claim the title of "The Disease of Civilization." Statistics show that the disease has increased to an enormous extent in the last fifty years; it has increased more in the upper classes, especially among those who have greater intellectual activity, larger sources of income, and easier means of indulging their passions. Further than that it has been observed that formerly general paresis came on later in life than is usual at the present time; for example, of 182 cases examined by Bayle, in 1826, he found only four under the age of thirty, and Calmeil, in a somewhat smaller number of cases, found only two under thirty-two years of age. In 1859 Austin found in his statistics that those under the age of thirty comprised 7 per cent. of the cases; Baillarger found about the same percentage in Paris at about the same time, while at the Devon Asylum in the period from 1845 to 1870 they comprised one-twelfth of the cases, while in the soldiers under the care of Mickle, during a period of eight years, extending to 1880, he found that nearly 33 per cent. of the cases were under the age of thirty when attacked. Another curious factor in this disease is that of sex. Various observers have placed the relative proportion which paresis attacks the two sexes at from four males to one female, to as high as eight to one. Mickle states that the cause of this disproportion mainly lies in his belief in the greater moral shocks and mental strain to which the male is subjected, as well as to the greater frequency with which he indulges in excess, especially alcoholic excess.

General paresis, or general paralysis of the insane, has been called in later years paralytic dementia, but this name should not be used in connection with this disease, for there are cases of dementia with ordinary paralyses, and, also, it describes a condition which occurs only in the latter stages of paralysis. Undoubtedly, as our knowledge of general paralysis increases this disease will be split up into a variety of diseases, just as has occurred in the differentiation of the various forms of Bright's disease, of pneumonia from consumption, and typhoid from typhus fever. At present our best definition of general paralysis is that it is a "disease of the nervous system, especially of the brain, marked by certain general disorders of mobility, ataxia, and paralysis, usually following a certain order and course of development, and especially obvious in the apparatus of speech and locomotion." There is generally in a lesser degree, sensatory disorder or defect, and the disease is also marked by mental symptoms, which at first often consist of exaltation of feeling, change of disposition or habits, or even expansive delirium, but the final stage of the disease, the mental condition invariably sinks into dementia. Post-mortemly there is found certain organic changes in the encephalon and its coverings, often in the spinal cord, and its coverings, and even in certain sympathetic ganglia.

It is easier to divide the stages of general paralysis into four stages: First comes the stage of mental alteration, which is followed by a stage of decided mental alienation, which sinks into a condition of chronic mental disorder during part of which time there may occur a remission of the symptoms, so that the patient may appear to be mentally improved. And, lastly, the stage in which the mental condition becomes so deteriorated that there is a complete prostration of the mental, motor and nutritive powers. The most common recognition of the existence of the disease comes from a gradually increasing change in the patient's mental or moral character. The patient may evince forgetfulness, or make many blunders, or he may have an expansive, speculative mind, or he may be full of vague fears, and hypochondriacal fancies. There may be loss of the genital faculties or there may be a sudden burst of sexual excess.

The greatest change in cases of general paresis is found generally in the normal sesnse. Boismont found that even seven years before the diagnosis of the disease there may have been unwonted acts of indelicacy, impropriety, or debauchery, or there might be great irritability, or a failure of the usual determination of character.

In the earlier stages of this disease, the motor symptoms may escape recognition, or they may be actually absent. When present, they are for the most part simply ataxis; the movements of the lips, tongue and muscles of the face and eyelids being interrupted by tremor or twitching, and voluntary movements being preceded and followed frequently by involuntary movements in the same direction. When the movements of speech are involved there results an occasional embarrassment, which, as a rule, can only be detected by the closest examination. An occasional pause or hesitation may emphasize this explosive utterance.

Sensory symptoms are not so prominent; severe headache is often observed, or neuralgic conditions, affecting the spine or the limbs. Vertigo, whistling sounds in the ears, flushing of the face or palpitation, may be noticed from time to time.

In the mental symptoms there seem to be two classes existent, the permanent and the transitory. The permanent symptoms consist of a steady march towards dementia, including the gradual enfeeblement of all the mental fculties, while the transitory exhibit the various forms of mental derangement.

Undoubtedly cases of paresis run their course without mental symptoms, although the disease is called "general paralysis of the insane." There have been many fierce battles over this point and this form of the disease may eventually be separated from the other types. The absence of mental symptoms was reported found by Delaye. Calmeil at first denied the possibility of such cases and subsequently acknowledged their existence. Mickle believes that if these cases are closely followed up that they will resolve themselves into cases of general paralysis with the dementia in the psychical sphere. Boismont and Ducheun believe that no encephalic lesion can be found in these cases, and hence that they constitute a distinct disease.

One of the puzzling features of general paresis is that of remissions. In actual practice they may constitute a source of embarrassment to the attending physician. In the care of a prominent statesman some years ago, he was placed in an insane asylum and his attending physicians pronounced his case hopeless. An advertising physician persuaded his family to allow him to take charge of the case, when, as luck would have it, a remission appeared, which was attributed by the family to the efforts of the new physician, and this fact was telegraphed all over the country. It gave the charlaton a great reputation for the moment, for, although the patient subsequently returned to his grave condition and eventually died, the doctor assured the family he had received the case too late to effect a permanent cure.

The remission may come in the mental or motor symptoms, or in both.

The duration of general paralysis extends in extreme cases from a few weeks duration to a period of several years. Death may occur from the severity of the symptoms, or incidental complications early in the disease, or from exhaustion later. The average length of the disease is considered now to be about twenty months for the male, twenty-six months for the female. This average in males is always smaller than in females.

Recovery is possible from the earlier stages of paresis, yet the ordinary termination is death. The patient lies bedridden with attenuated frame, until some epileptoform convulsion, embolism, intrashock hemorrhage, etc., sets him free.

The cases of general paresis must be differentiated from cases of chronic alcoholism, which is in itself a common cause of paresis. Chronic alcoholism may closely similate paresis. Brain syphilis must also be differentiated from paresis. Syphilis as an active cause of paresis is dropping rapidly to the background; parasyphilitic causes may produce paresis, but syphilis itself is not a common cause of this disease. Mania, sclerosis, intracranial tumors, dementia with paralysis, senile dementia, locomotor ataxia, must all be differentiated.

When it comes to the question of treatment, the tides have ebbed and flowed; undoubtedly to-day the treatment of paresis by travel is greatly discouraged. Travel has been the great panacea for paresis for years, but the results have been unfavorable. The exhaustion, the annoyance, the excitement of travel, have ill-effects on the progress of the disease and may serve to add fuel to the fire.

It is better to lock the barn before the horse is stolen by the prevention of paresis by the regulation of marriage, by education, by gymnastics, regulated life, etc.

But when once established it is better to place the patient in a quiet home far removed from bustle, irritation of home cares or excitement. If a private home cannot be maintained, a private asylum is an excellent substitute. A modified rest cure produces the best effects, together with treating the symptoms as they arise. Tonics, mild stimulants, etc., are all beneficial, but there is no specific in the disease as yet, and the long list of drugs prescribed shows the lack of success involved.

THE STUDY OF THE ETIOLOGY OF ASTHMA AS NECESSARY FOR TREATMENT.

BY G. R. JOHNSON, M.D., PHILADELPHIA.

THERE is no disease less apt to render a physician conceited than asthma, for its treatment as yet is difficult, uncertain and unsatisfactory, whether it is approached from the standpoint of a clinician or a pathologist. The old question of the spasmodic or congestive nature of the bronchiolar stenosis is still being fought with satisfaction to no one. It is hard to give preference to either view for each is well backed by clinical and therapeutical observations. Ewart does not believe that arterial spasm can ever give rise under any circumstances to congestion, although this phenomenon is vouched for by Thorowgood and Andrew H. Smith. The following clinical experience of Thorowgood led him to this conclusion: A young woman subject to asthma found no relief from cigarettes or fumigations. During an attack the pallor and anxiety of expression were such as to suggest that a remedy dilating the vessels was indicated. Her pulse was 120, and feeble, her chest moved up and down without real expansion and there were few wheezing sounds. Drop doses of nitroglycerine solution gave some alteration and complete relief was obtained by repeated doses of ten grains of chloral hydrate. The patient subsequently improved in health.

Haig, who has gone extensively into this subject, arrives at the following conclusion: "1. That asthma, while resembling migraine, epilepsy and Raynaud's disease, is paroxysmal and is also like these diseases, paroxysmal, in relation to the excretion of uric acid and the amount of that substance which passes through the blood. 2. That as excess of uric acid in the blood contracts the arterioles all over the body and produces high arterial tension and, further, as there is some reason to think that migraine and epilepsy represent the effects of high arterial tension on the circulation of the brain, while Raynaud's disease represents the effects of contracted arterioles on the nutrition of the skin, we found ourselves asking the question whether asthma might not represent the effect on the thoracic circulation of the contraction of arterioles and high arterial tension similarly produced."

There are some factors which favor this idea; uric acid by its action on the renal arterioles regulates to a certain extent the amount of water that is passed in the urine, and also within certain limits the amount of water expired by the lungs.

There are several conditions in the lung which are usually overlooked by clinicians in their researches. This is the anatomical condition found there; there are two circulations in this organ, one from the pulmonary artery, which is at low pressure, and the other from the bronchial arteries, coming from the systemic circulation with much higher pressure. These circulations are taking place in a cavity which has its own pressure raised continually by inspiratory and expiratory movements. Marcy has pointed out that if you change the atmospheric pressure on any vascular area the capillary vessels dilate if the pressure is removed. It seems obvious that more blood will stream into that area which has the highest arterial tension behind it because it is the pressure in the arteries which drives the blood through the capillaries into the veins. Naturally if the atmospheric pressure is diminished in the chest there will be more congestion in the bronchial circulation than in the pulmonary. A tendency to congestion in the lungs which is more marked in the area of distribution of the bronchial arteries which will increase on the one hand with rising arterial tension and on the other with anything which obstructs the free entry of air into the thorax and in this way tends to diminish the atmospheric pressure during inspiration Marcy attributes to the diminished pressure in which they work, the ease with which the lungs become congested or inflamed. Haig believes that is associated with the increase of uric acid occurring later in life, when failing nutrition, failing urea and diminished acidity forces a large amount of uric acid into the blood. As uric acid is largely due to nitrogenous food, it is claimed by vegetarians that those who attain extreme old age are more or less strictly vegetarians. May not this fact explain the causation of chronic bronchitis and its frequent association with chronic Bright's disease?

Von Leyden believes that "bronchial asthma may be spoken of fibrinous bronchiolitis; but though it has much in common with fibrinous bronchitis, it is not the same thing, for fibrinous bronchitis may exist without asthma. Eosinophile cells are seen in great numbers in the sputum in almost every attack of asthma. The most rational explanation of this fact that the serum which exudes in the alveoli and in the small bronchi and which

later forms the coagulations and the crystals has a chemotache action upon the eosinophile cells of the blood, draining them thither in great numbers. Attempts to make of asthma an infectious process have failed. That infection is not present is shown by the absolute lack of suppuration in the fresh attacks. The micro-organisms which have been described in this connection have their origin doubtless in the larger bronchi."

Kingscote believes that dilatation of the heart may be the cause of asthma by occasioning pressure upon the vagi. The Nauheim treatment which reduces the size of the heart helps asthma and he has devised a method which is a considerable modification of the Nauheim method combined with inhalation of oxygen twice daily. But the frequency of the occurrence of cardiac dilatation without any asthmatic symptoms is almost an unsurmountable objection to this theory.

Asthma is made worse by anything which contracts the systemic arterioles and raises arterial tension and is made better by anything that reverses this process. Uric acid producing high arterial tension, explains the relation of gout and asthma. It also explains the relation of the asthmatic attacks to the early morning hours for at this time occurs the largest secretion of uric acid. Sleep in the recumbent position tends to raise the general arterial tension as compared with sitting or standing according to Marcy, hence asthmatic sufferers can frequently sleep in a chair but not in a bed, although no doubt the upright position also favorably affects the action of the respiratory muscles.

Diet undoubtedly affects asthma; this is easily believed if we accept the uric acid theory of the cause of this disease. Dyspepsia is related to attacks of epilepsy and migraine, why should it not be connected with asthma. There is a double relationship, for dyspepsia is both a cause and an effect of uric acidemia. Haig has pointed out that uric acidemia, when it contracts the arterioles. may practically suspend gastric intestinal digestion and absorption and allow putrefactive processes to take place. In this way uric acidemia causes dyspepsia.

Haig explains that dyspepsia will increase the uric acidemia in the following way: "Suppose there is no excess of uric acid in the blood, but that some indigestible substance, as a piece of pork, upsets gastric digestion, the result is the more or less complete arrest of digestion, and absorption even if there is no vomiting; and this promptly causes a fall in urea and a corresponding fall in the acidity of the urine; the alkalinity of the blood is increased and any uric acid within its reach is at once taken up in solution. Such is the usual causation of a bilious attack, or uric acid storm and the high tension which results from the passage of the uric acid through the blood produces headache of epilepsy, or if the dyspepsia is chronic rather than acute, mental depression, and leads on to that general failure of nutrition which we call Bright's disease." He cites the case of Frederick the Great who had a severe attack of dyspnea followed by gout; he was extremely irrascible and gouty. This represents the effects of uric acid on the cranial circulation just as the dyspnea represented its effect on the thoracic.

A case reported in the *Lancet* (Vol. i, 1893), shows asthma alternating with epilepsy probably due to the fact that some third factor has for a time rendered the thoracic circulation more liable to be upset by the high tension than the intracranial and any temporary interference with free respiration would account for this. This would explain the relation of asthma to eczema and other skin troubles. Some skin diseases no doubt simply represent the effects on its nutrition of vessels contracted by uric acid. Taking this theory as a basis, some skin specialists have had satisfactory results from treatment along these lines.

Hay asthma, commonly called "hay fever" may be due to the irritant action of small particles floating in the air which produce nasal congestion and obstruction, increasing the alkalinity of the blood and the amount of uric acid it will contain. Bad air, deficient oxygen, certain odors, shock and fear, all act the same way in precipitating an attack of asthma when it comes to the question of treatment the practitioner must form first a definite idea of the cause underlying the asthmatic attacks before he can successfully combat the disease. The drugs most widely used have been the iodides, especially the iodide of potassium. These relax the arterioles and lower arterial tension by clearing the blood of uric acid. Mirphine and the nitrates act in a similar manner; bleeding reduces the arterial pressure as do tobacco and lobelia which are both muscular and cardiac depressants. Other especial treatments are atropine, compression of the pneumogastric, inhalation of oxygen and the use of the suprarenal extract.

Atropine was proposed years ago by Trousseau and has lately been revived by Van Noorden. "The initial dose of one-sixteenth of a grain is to be increased every two or three days until we reach one-tenth of a grain per dose after which the dosage is gradually diminished. The physician is cautioned to exercise great care in its administration. Atropine may not influence an individual attack; it helps to prevent any recurrence however.

Miranda claims success in the compression of the pneumogastric nerve in the cervical region during attacks of severe asthma. He has arrested attacks of whooping cough by the same procedure. Inhalation of oxygen or compressed air stimulates the capillary circulation in some cases but in others it is useless. Suprarenal extract is advocated by Swain and S. S. Cohen. Swain states that (1) The aqueous extract of the suprarenal is a powerful local vasoconstructor and contracts erectile tissue; it may be safely used in considerable amounts. (2) No vicious habit is established by a repetition. (3) It seems to heighten the effect of any local medication. (4) Its best and evident opportunities are in the acute congestions but it may also be relied upon in some chronic conditions such as those of the hay-fever type.

Haig who has had great success in the treatment of asthma works along the lines of the elimination of uric acid from the blood, and he gives the iodides if the gastric conditions are good. He prefers the iodide of potassium given with spirits of chloroform and some carminative. The salicylates are useful if no dyspepsia or debility exist. These drugs clean the blood of uric acid by increasing its solubility and hence if the alkalinity of the blood is high, the uric acid may combine with this alkali and not with the salicylate and do damage instead of good. Hence in giving salicylates, it is well to combine with them drugs that tend to diminish the alkalinity of the blood, such as aromatic spirits of ammonia or an acid mixture before meals and the salicylates after meals.

The formation of uric acid may be avoided by diet, avoiding as far as possible animal tissues and vegetable alkaloids, such as soups, meat extracts, coffee, etc. Urea excretion per pound of body weight is the most scientific guide, for urea is probably excreted as formed, while the excretion of uric acid is a matter of solubility. On so-called ordinary diet Haig reports that his own urea secretion was four grams per pound; he reduced

it to two and one-half grains and was free from uric acid headache and his arterial tension was markedly reduced.

Hence the diet may be after all the secret of successful treatment in asthma. It should consist of the free use of vegetables, fruits and vegetable products and in addition milk, fish and eggs. Meats, soup, and meat extracts should be avoided as poison, for they are rich in uric acid. Remember that a diet may be prolonged for a year or more before success is met, for the body cannot be cleared of accumulated urates in a week.

No uniform description or treatment can apply to all cases. In some, the primary seat of inhalation is nasal, pharyngeal, or bronchial; in others, gastric; in others, olfactory.

The following are a few well-tried, successful therapeutic combinations not generally known and not given in the ordinary text-books for asthmatic treatment.

A combination of iodide of potassium.

℞ Potassium iodidi 3iij
Extracti belladonnæ fluidi..... 3j
Extracti lobeliæ fluidi..... 3ij
Extracte grindeliæ fluidi..... ℥ss
Glycerinæ
Aquæ, aa. ..... ℥jss

Sig: Take a tablespoonful every two, three or four hours, as necessary.

A good method of giving chloroform externally is as follows, advised by Dacosta:

Chloroformi ..... ℥ss
Olei terebinthinæ ..... ℥j
Spiritus rosmarini ..... ℥jss

Sig: To be rubbed on chest several times a day.

Ether can be given internally in the following manner:

℞ Aetheris ..... ℥jss
Tincturæ lobeliæ ..... ℥j
Tincturæ opii .....
Tincturæ stramonii, aa. ..... ℥jss

Sig: Half teaspoonful every hour or so until nausea results.

Shoemaker recommends the following prescription between the attacks:

℞ Potassi iodidi 3vj
Liquoris potassii arsenitis..... 3jss
Extracte grindeliæ fluidi ..... ℥ij
Tincturæ euphorbæ piluliferæ..... 3v
Fluidi extracte yerbæ santal fluidi, q. s. ad. ..... f℥iv

Sig: Teaspoonful three times a day.

In the suffocative stages of asthma the following is recommended:

Tincturæ lobeliæ ..... ℥ss
Tincturæ sanguinariæ ..... ℥ij
Olei menthæ viridis..... ℥ss
Syrupi empyreumatici 3v

Sig: Half a teaspoonful every two hours.

Let us keep in view the broad lines of this affection: (1) Its local cause, which we should endeavor to detect and remedy; (2) its predominant feature of hyperesthesia, which we must reduce by the least damaging agents; (3) its inherent feature of delicacy for which a well-planned hygiene is the best medicine.

The hyperesthesia has been helped by the use of paraldehyd and orthoform, while chloroform inhalation generally gives relief at the moment.

—An autopsy revealed extensive gangrenous appendicitis to be the cause of death in a six-weeks-old baby at Yonkers recently.

THE DIFFICULTIES OF DIAGNOSIS AND TREATMENT OF GASTRIC CANCER.

BY DR. M. SHELLENBERG, PHILADELPHIA.

THE following case is interesting because of the fact that cancer of the stomach is freely confused with other stomachic troubles.

George R., aged fifty-eight, an American by birth, Married has had several children, came under attention January 20th. His family history was somewhat negative, one parent having died of consumption; the cause of the death of the other was unknown. The patient himself had always enjoyed good health and had never been confined to bed except for trifling illnesses. He had been injured some weeks before admission by a blow on the head, but nothing of serious nature is known in the case.

The history with which he comes to us now is that he has had indigestion for several months, vomiting frequently after the ingestion of food. This grew worse until he vomited nearly every time he ate, being troubled as well with acidity and "heartburn." He does not look well, his skin being dry and rough, and his complexion is of a yellowish tinge. His liver seems normal in size and his bowels are constipated. He has some pain and tenderness over the region of the stomach on pressure, but he has spat no blood. He has lost flesh rapidly, which he attributes to the fact that he is unable to keep his food in his stomach. His pulse is not strong and his heart sounds are weak, while his respiration is normal. Since the time of his admission to the hospital, a month ago, he has been unable to take solid food, so he has been kept on milk with the use of alcoholic stimulants from time to time, especially whenever his temperature was subnormal. The ejecta consisted simply of the food swallowed and mucus. No tumor could be made out within the abdominal wall. He lived for the last week practically without nourishment, and died eventually of inanition. On examination at the autopsy, the diagnosis of carcinoma of the stomach was confirmed. At the pyloric orifice of the stomach was a scirrhous cancer which nearly filled this aperture. It also involved the mucous membrane of the small intestine which was found to be in a highly congested state. The rest of the abdominal organs were normal in condition, excepting possibly an engorgement of the spleen.

In taking up the question of diagnosis of these cases, many interesting questions arise. In the first place it occurs equally in frequency in the sexes we are told by the text-books and genuine cancer is rare under forty years of age. It seems to run in family groups and hence heredity is to be considered. In one family of my practice it has occurred in the females in the shape of cancer of the breast in three sisters and three of their children, but not one male was affected, nor was the fourth daughter or any of her descendants, who numbered some sixty in all. But here were six cases in one family, all with exactly the same history. Curiously enough, this family was singularly free from tuberculosis; in making up the family history for several generations back not one case was found. The family of the inexhaustible Napoleon had many cases of cancer in their number; Napoleon on his deathbed directed that his abdomen should be opened and search made for cancer of the stomach (which was subsequently found), of which his father had died years before.

It is well to remember that cancer may skip a generation entirely and hence mislead the practitioner and the family itself. There is a dispute whether stomachic or uterine cancer is the most common form of the disease;

statistics have not yet definitely settled this point. In the stomach it may be found at the cardiac end, but its favorite site is the pylorus. Some cases may run their course without giving warning of their nature; for example, in a ship's steward under my care, I found he had always been a nervous hysterical man, famous for being sick of imaginary ills. He was brought to me by his wife, who said he feared cancer of the stomach. On examination nothing was found, excepting that he complained of a pain over the epigastrium on eating. His wife thought he exaggerated the amount of pain he felt, and he drifted from my view, the family feeling that he was shamming. I was able to see the case only casually, but I felt there was more of it than the family, and asked them to keep me informed of his progress. Some months later I was called in and found the man in an extreme state of emaciation. It was the typical picture of gastric cancer, and was verified by the subsequent autopsy. Here in the first part of the case the physician would be apt to be misled by the absence of symptoms, the hysterical character of the patient and his history of previous pretended serious illnesses to pronounce lightly on his case.

Generally the case begins as an ordinary case of dyspepsia. There is simply a sense of fulness, discomfort, or slight pain after eating. The case progresses rapidly despite all attempts to ameliorate the condition; next comes decided pain, pyrosis, eructations of gas interspersed with vomiting. Food at first is all that is ejected, but gradually the "vomiting of irritation" appears and the stomach voids its contents often without the slightest apparent reason. Naturally there is a double case of depression, first the actual effects of the cancer; secondly, the emaciation due to the lack of assimilation of food. The patient seems to fade away before one's very eyes, the skin assumes a yellowish hue; constipation becomes apparent, due either to the amall amount of food digested or to the altered character of the gastric and intestinal juices. Sometimes salivation appears, the tongue is coated and frequently pointed. The severe pain which now develops may be misleading, for frequently it is felt far from the seat of lesion. It often appears between the shoulder blades.

The location of the cancer modifies the symptoms; pyloric cancer is the easiest form to diagnose. When in the body of the stomach it may produce little or no discomfort, and the patient may go on to death with the real condition being undiagnosed. It is a question whether the time of vomiting will help in the diagnosis of the position of the cancer. It is claimed by some authorities that cancer at the cardiac end will produce vomiting as soon as the food is swallowed, while at the pyloric end, the vomiting occurs several hours after eating. As a matter of practice, the vomiting may occur at any time in either form. Of course, the longer the food stays in the stomach, the more it is changed.

The early diagnosis of cancer should be the aim of the practitioner. Chronic dyspepsia and gastric ulcer are apt to be mistaken for cancer, but be careful not to make a quick diagnosis. The history of the case, the physical signs, the age, and the examinations of the contents of the stomach should all be considered. A good knowledge of abdominal anatomy is all important in these cases; also good power and discretion as a palpator. A little study of this region will harm no one to consider. Anatomists divide this region into nine parts. The region covering the greater part of the stomach and the pylorus is termed the epigastric region. It contains the middle and pyloric end of the stomach, the left lobe of the liver, the lobus spigelii, and the pancreas. In an emaciated patient, a scirrhous cancer can be seen but it is rare. The patient should be on his back with his knees drawn up and the abdomen as relaxed as possible. The physician's hands should be warm, as cold may cause a violent contraction of the walls and help to conceal a tumor. The patient should be made to breathe deeply, making the diaphragm fall on each inspiration. Distract the patient's attention by conversing with him sprightly; or keep his ideas on the necessity of breathing deeply. At first allow the hand to rise and fall with each breath. Little can be done by hard pressure. Avoid quick movements. When the pylorus is affected, the position of it is lower than the normal site, as the weight of the cancer pulls it down, or causes dilatation. A distention of the stomach may conceal the cancer entirely. The cancer is very little affected by inspiratory movements. Cancer of the pancreas or left lobe of the liver must be remembered, but these cases are very rare.

Much has been written on the question of the examination of the contents of the stomach, including the character of the gastric juice. This has been a peculiar delight to the German scientists, who are ever eager to reduce the practice of medicine to a fast and hard set of rules. It is rather difficult at first to persuade patients, especially ladies, to submit to the examination of gastric juice. The first effect of a gastric cancer is to lessen the secretion of the gastric juices, and hence much of the dyspepsia is undoubtedly due to the diminution of hydrochloric acid in the secretion. To examine for the actual juices of the stomach, it is better first to wash the stomach out, so that all foreign matters are eliminated. Have the patient eat very little for twenty-four hours, and then draw off the contents of the stomach with a soft stomachic catheter, which, after being oiled, is passed into the patient's throat and gently pushed downward into the stomach. This is difficult for the patient to permit at first, but he speedily grows used to it until he can do it for himself. It is six inches from the front teeth to the esophagus, while that tube in ordinary adults is about nine or ten inches long. This makes a distance of fifteen or sixteen inches to the stomach. Having introduced the tube, let the patient sit down and, having placed a funnel in the end of the catheter, gently pour in some water. Elevate the funnel and permit the water to run into the stomach. Do this until the patient feels that his stomach is full. Then lower the tube, make the patient lean over and the water will run out. Continue this process until the water runs out clean. Now insert in a clean catheter about two ounces of ice cold water, which will stimulate the secretion of gastric juice. In twenty minutes withdraw the stomachic contents and pure gastric juice will be obtained.

There are many tests for hydrochloric acid; first use litmus paper to see if the secretion is acid. If it is acid, it may be due to acetic, lactic or butyric acid, as well as to hydrochloric acid. A few drops of a diluted watery solution of methyl violet will cause a distinct colored precipitate if hydrochloric acid is present. The tests otherwise prepared are uncertain. In the case of a member of the family I have already mentioned of six cases of cancer there appeared last year, emaciation and chronic dyspepsia. The test for hydrochloric acid was made and the chemist, experienced at his work, pronounced the case one of gastric cancer. This, coupled with her family history, caused her to decide on an operation. On cutting open her abdomen, her stomach was found to be in perfect shape, and now her family are on the verge of a suit for damages against the surgeon who operated.

To find microscopically the cancer cells in the ejecta is a favorite diagnosis for some clinicians, but it is uncertain. The cancer bacillus has been exploited but still unfound.

The prognosis is bad and the treatment unsatisfactory. It is simply a question how long the patient will live. Milk as a diet and morphine as a drug are indicated. Billroth and others have relieved successfully cancerous pylorus, but these are the exceptions. Washing out of the stomach gives great relief; the patient can learn to do it himself. Acid eructations require creosote, hyposulphites, etc. Constipation must be fought, otherwise treat each case as the symptoms seem to require.

TUMORS OF THE BREAST.*

BY FOUCHE WARREN SAMUEL, M.D., LOUISVILLE, KY.

CASE I.—Amanda H., colored, aged twenty-three years; married; no children; personal history good. She noticed a small hard lump in the outer and upper quadrant of the breast eighteen or twenty months before consulting me. It was not painful or tender to manipulation. She gave it no consideration for the time being, not using even a local application, hence very little irritation was produced in its early history. Two months after she noticed the lump, it was twice as large as when first observed. She consulted a physician, who stated that it would have to be removed, but she refused surgical interference at that time. The growth steadily increased in size, and just before I operated upon her, had begun to cause pain and inconvenience. It had become very tender in certain areas, which I especially noticed a week or so before the operation. I think the tenderness was due entirely to its being a very large tumor; standing out prominently, it was subject to injury during the time she was at work, her occupation being that of a washerwoman.

The tumor occupied the entire outer and lateral half of the mammary region; it was hard and nodulated; the breast was soft and was easily pushed to the inner and upper side of the growth. My incision was so made as to save the nipple and to hide the scar as much as possible, after the plan suggested by Gaillard Thomas. I regarded the growth as an adenofibroma which had not yet undergone cystic degeneration, and operated with a view of sparing the breast gland, if possible. Had I found it cystic (and I purposely cut into it when I had it well exposed), I would then have removed the entire gland with the tumor. As cysts were not present, and it was completely encapsulated, the gland was left intact.

Adenomata may occur at any age, but are most frequent between puberty and forty-five years, that is, during the period of sexual activity. They are rarely painful, the fibro-adenomata more often so than the cystic. It is reported that they frequently become painful and more sensitive to manipulation during the menstrual period. Adenomata of the mammary gland are, with few exceptions, fibro-adenomata. Since fibrous tissue is always mingled with the glandular hyperplasia, true adenomata are rare. The excessive development of connective tissue and absence of secretion is the line of demarcation in the departure from the normal gland undergoing changes during lactation. The two varieties of adenomata are, as a rule, essentially benign; they may, however, degenerate into epithelioma. Orth makes the statement that these tumors may arise from the adventitia of the milk duct, or the connective tissue in conjunction with the hyperplasia of gland tissue. This fact of degenerative action in connection with recent pathologic observations have beyond doubt revealed that adenomata have a tendency to degenerate into tumors of a malignant type. This gives to the growth a peculiar clinical significance, and removal should be urged as soon as such tumors are discovered.

Mammary adenomata occur as fibro-adenomata, and cystic adenomata (so-called adenocele). As a rule they are located in the superficial parts of the breast gland; they may, however, be deeply situated; they are hard to the touch and glide easily about under the skin when examined. A cardinal feature of these tumors is their mobility. Fibro-adenomata rarely exceed the dimensions of an unhulled walnut, and are usually much smaller. The cystic variety, on the other hand, often attains a large size, some reported weighing ten and twelve pounds. The cystic variety is also encapsulated, having a fibrous stroma with glandular acini embedded. The acini are often dilated, and intracystic growths are found springing from the walls, so-called papillomatous processes.

In the treatment of such cases the question of removal of the gland must be left to the judgment of the operator, when seen in their early stages. One general rule may be stated: When the patient is more than thirty-five years of age and the tumor very large and painful, it will be safer to remove the entire gland. Mr. Clark believes that in certain cystic processes in the mammary gland an intermediate period is reached, in which, if certain stimulus is exerted, an adenoma is the result; or if there is a predisposition and the patient is more than forty-five, a carcinoma will be the result, a most important observation, if pathologically correct, which has a special clinical significance in this class of tumors.

Case II.—Mrs. K., a widow, aged forty-nine years, mother of several children, consulted me in February, 1895. Her history up to that time had been good. About a year before consulting me she observed a small lump in the upper and outer quadrant of the left breast. At the time of my first examination the tumor was about the size of a hen's egg, the skin was adherent over it, and it was slightly fixed to the underlying muscle. The nipple was markedly retracted and the glands were enlarged along the outer border of the pectoral muscle and in the axilla. The tumor was hard to the touch and the skin overlying it was brawny and shriveled. I proposed a radical operation, after the method of Halstead. Her health was not good, and I feared dissemination had or was occurring. I stated to her that the operation suggested was extensive and not without danger. After due consideration she consented. I removed the breast, including in the circular portion of my incision the entire gland at its base. The pectoral muscle was cut away, and the tumor was found adherent. This exposed the axilla and infraclavicular region. The axillary vein was easily seen, and all fat and glands were removed as high as the middle of the clavicle. The nerves were carefully preserved. This left a large space which could not be covered by skin, the triangular part of the flap being used to close the axilla. The extensively denuded surface was allowed to granulate, and ten days after the primary operation I skin-grafted the defect with an oval piece of skin, four inches by three and one-half inches, from the chest on the opposite side, allowing the pedicle to remain intact, as a good blood supply was necessary to maintain nutrition of the graft. After three days it was attached

*The original paper was published in *Medical News* Vol. LXXIII. No. 7; the discussion which follows has not before appeared in print.

firmly, and the pedicle was cut at the margin of the wound made by removal of the breast. A considerable piece of pedicle was left, which was replaced in its original position, and assisted materially in closing the defect left by the skin graft.

This patient was well, with no sign of recurrence, in July of this year, the last time I heard from her.

Case III.—Mrs. F. was referred to me by her physician. About six months before I saw her she noticed a small nodule in the breast, which she said was becoming painful and had doubled in size within this period. There was no glandular involvement, and the nipple was not retracted. The same operation as in Case II. was performed, the axilla, which was found studded with small lymphatic enlargements, being cleaned out as high as the middle of the clavicle.

Microscopic sections of both these tumors showed them to be pure carcinoma of the acinous variety.

During 1889 I operated in one case of cancer of the breast, and during the same year assisted in two more. From that time until 1895 I have notes of four amputations of the breast in addition to the last two cases here recorded. Deducting the last two cases, it leaves six patients operated upon by what we call to-day an incomplete method. I have been able to follow the history of four of these patients. In two cases the axilla was not invaded, because at the time of the operation no enlargement was felt in the axilla; the skin over the tumor was not appreciably involved; in both the nipple was slightly retracted; the entire breast was removed by a small elliptical incision, and the fascia over the pectoral was not disturbed. In one a few enlarged glands along the free border of the pectoralis major muscle were removed. In both patients recurrence took place; in one there was local recurrence in the scar, with lymphatic involvement below and above the clavicle when she returned for treatment. In one, regionary recurrence took place in the gland above the clavicle and in the axilla. In both instances a secondary operation was refused. In the third case a secondary operation was permitted. The recurrence was first noticed in the scar as exuberant granulation tissue, and occurred about three months after the primary operation. The secondary operation consisted of excision of the granulation tissue and the use of a cauterizing paste, composed of sulphuric acid and charcoal. Before the healing process was nearly completed, enlargements in the axilla and above and below the clavicle were easily felt.

Recurrence took place in the four patients in three, six, seven and ten months respectively. The prognosis in one upon whom a secondary operation was performed was considered at the time of the primary operation most favorable, but recurrence was more rapid than in the others in which the tumor was larger and the skin found to be slightly adherent. In the two cases in which the axilla was invaded, enlargements were felt in both before the operation, and these enlargements were found to be very numerous and matted together when the axilla was fully exposed. In each instance the axilla was cleared, as was the practice then, of all glands that could be felt and seen, but the pectoral fascia was not removed. Local recurrence took place in seven and ten months. The glands were so enlarged in one case twelve months after the second operation as to produce edema of the arm. Excruciating suffering was experienced by this woman before she was relieved by death.

I am aware that operation after operation has been performed upon patients and their lives prolonged for many years, yet all seem to have been incomplete from the first, and few patients can be persuaded to submit to these multiple operations, which hold out only a slight chance for permanent relief; there are reported cases in which even the second and third operations have been done and the patients died of internal metastases in less than twelve months after the primary operation. Observation goes to show that if success is to attend operations for breast cancer, they must be early and complete. I would designate as an early operation one performed before any enlarged glands are demonstrable along the border of the pectoral muscle, and before the skin has become involved in the infiltration.

The systematic cleaning out of the axilla was first advocated and practised by Volkmann, Billroth and Küster, whose results were probably the best obtained until within a short period of the present time. Although these operators labored faithfully to master the disease by constantly extending their operative measures, local recurrence in their practice was enormous. Even as late as 1893 Bland Sutton laid great stress upon the importance of avoiding opening the axilla, if possible, on account of the added risk to the patient. Volkmann, Billroth and others were systematically cleaning out the axilla and removing the pectoral fascia in the early stages of breast cancer long before this, and Volkmann removed part of the pectoral muscle when satisfied of its involvement. To the last named operator we owe the statement of the difference, prognostically, between the involvement of the pectoral muscles by extension of the growth and the invasion of the muscles by metastasis. This may be explained, as Ludwig says, by the cellular elements entering the lymphatic system of the muscle and being carried rapidly by the muscle contraction throughout its fibers. It is not necessary that the tumor be adherent to the muscle in order that the muscle itself be involved, and, as stated by him, carcinoma may be embedded in muscle and still not *involve* the muscle, by virtue of the fact that the lymphatics spread out upon the fascia and do not follow the blood-vessels into the connective-tissue septa between the muscle fibers, in which theory he is supported by Heidenhain, whose investigations have proven that the direction of the lymphatic current is from muscles to fascia and not in the reverse direction. So much was Volkmann impressed with the fact that the fascia is involved long before the muscle, that he adopted a method of operating which has become classical. It has been his advice to remove the fascia of the pectoral as clean as possible, and he asserts that when carcinoma has made its way into the lymphatic vessels it has invaded the fascia down to the surface of the muscle, however thick the layer of fat between the breast gland and muscle has been, even if it still remain perfectly movable.

As to the ultimate results, or what might be called radical cures after complete operation, most surgeons accept even yet the views of Volkmann, that at least three years must pass before a radical cure can be claimed. His method of cleaning the fascia from the pectoral muscle, a wide incision, with systematic clearing out of the axilla, have given the best results up to the present time, but it is by the method of Halstead, in this country, that the radical cure of breast cancer gives far better results if the patient is operated upon before dissemination has taken place.

The following table is from Halstead's paper, published in 1894:

Operator.	Time.	No. of cases.	Local recurrence. (Per cent.)
Bergmann.....	1882-87	114	51-60
Billroth.....	1867-76	170	82
Czerny.....	1877-86	102	62

Fischer.....	1871-78	147	75
Gussenbauer...	1878-86	151	64
König.....	1875-85	152	58-62
Küster.....	1871-85	228	59.6
Lücke.....	1881-90	110	66
Volkmann.....	1874-78	131	60
Halstead.....	1889-94	50	6

Halstead says: "The prognosis at the time of the operation was recorded as hopeless or unfavorable in 27 of the 50 cases of complete operation. In every one of the 50 cases some or all of the axillary glands were cancerous."

In the two cases reported I followed the method of Halstead in every particular. In the case of the first patient nearly three years have elapsed, and in the second, a year and five months since the primary operation. In neither has local or regionary recurrence been discovered. The patients remain in good health, with almost perfect use of the arm. I am convinced that the operation is incomplete unless the pectoral fascia and muscles are removed. It is never known until after a microscopic study of the muscle fibers has been made whether or not they are involved, and as they are involved before decided lymphatic involvement is palpable, it is poor surgery to leave the muscle behind, the loss of which does not entail a great amount of disability as far as the arm is concerned.

DISCUSSION.

Dr. Turner Anderson: The subject of mammary tumors has always been one of great interest. I have been observing diseases of this class for many years, and always approach such cases with a great deal of trepidation. It is not easy, in fact I do not know that it is possible, no matter what a man's experience is, to be certain in his diagnosis by the physical appearances of a breast that has a tumor in it, whether it is malignant or non-malignant. Experience helps materially, but to say that we are able to diagnosticate malignant and non-malignant disease in this situation from the physical appearances would be claiming too much. Inflammations of the breast, chronic mastitis, etc., sometimes pursue such a course as to render differentiation between a condition so trivial and so easily understood from malignant disease. Non-malignant troubles of the breast, cystic degeneration, fibroid tumors, adenomata, lipomata, are not easily separated from the carcinomata, scirrhus and encephaloid disease.

I have pursued the plan of relying much in forming my opinion of an individual case which presents itself, upon the rational as well as the sensible signs presented in the physical appearances. This is digressing somewhat from the line of thought suggested in the paper, but we are helped materially when we take into consideration the age of the patient, social position, heredity, the duration of the tumor and still further respect the symptomatology of the cases as they present themselves. A man of experience, before an operation is undertaken, can form a good idea, though he cannot be absolutely certain, of the nature of the condition if he considers certain points in connection with the case. It is not necessary to mention pain; we know that malignant disease of the breast is ordinarily attended with much pain. Fibrous tumors of the breast may exist for a long time without giving rise to pain. Adenomata and cystic diseases of the breast are not characterized by pain in a large percentage of cases. Inflammation of the milk ducts, canilicular disease, etc., with dilatation of the milk ducts, lactiferous tubes, etc., may be present and not give rise to pain.

When we consider the mortality of malignant disease of the mammary gland we find a great difference in statistics. The duration of life, according to most writers, is about three years. The mortality in such cases is very high. We must consider how soon during the course of the disease fixation of the skin, retraction of the nipple, decoloration of the cuticle takes place, etc., and we can form a very accurate opinion before an operation is undertaken whether we are going to encounter a case of carcinoma or not. I believe in taking out all tumors of the breast as early possible, since non-malignant mammary growths are prone to undergo malignant changes. I do not believe that malignant tumors of the breast, judging from my own experience, and from operative work in this line that I have seen, where the disease has invaded the axilla, or where it has invaded the supra-clavicular glands, is ever relieved by an operation. I have never seen a single case in which recurrence did not take place. I repeat that I have never seen a case of typical cancer of the breast in which an operation for removal of the mass was performed in which recurrence did not take place, no matter how complete the operation nor who the operator.

I have operated several times for malignant disease of the breast, doing, as I thought, as complete an operation as was justified, with the assistance of men who were intelligent and capable, and recurrence took place promptly. I have seen a great many very complete operations for this class of neoplasms in the hands of medical friends, in which I have been associated, and in every case there has been a recurrence of the disease. Recently a radical operation was performed upon a woman for breast cancer very early in the history of the disease; there was little retraction of the nipple; there was no appreciable involvement of the axillary glands; there was but little fixation of the skin and slight decolorization of the skin over the tumor; that operation was undertaken promptly; it was advised by myself; the pectoralis major muscle was dissected out, the axillary glands were exposed and all suspicious-looking material removed. There was a recurrence of the disease within three months. While incomplete operations should not be undertaken, at the same time, even with a complete operation, we cannot offer the benefits of future immunity, etc., that we would like. Speaking from my personal experience and from what I have seen, even with the so-called complete operation based upon modern surgical principles, we are not yet able to say we are not going to have a prompt return of cancerous disease of the mammary gland.

Dr. Louis Frank: The lesson taught by the interesting paper is early and complete operation for cancer of the breast. As the consensus of opinion is that all tumors of the breast should be promptly removed, it is not a question of making the diagnosis before the operation; the diagnosis may as well be made post-operative, and if the breast is to be amputated in all cases, the axilla should also be cleaned out. I have recently seen a case which forcibly impressed this fact upon me. The case also shows that age really is no factor in cancer of the breast. The patient was a lady living out of the city, and was seen with Dr. Frazier. She was young, only twenty years of age, and noticed a small lump in her breast. She applied to her physician, and after a careful examination a tumor was diagnosticated, which was thought to be benign. The breast was amputated and the tumor proved to be a carcinoma. Another feature also illustrated by this case

is that not always by a careful examination, palpation of the tumor, the physical appearance of the patient, etc., can we diagnose the existence of malignant disease. We will sometimes find that a tumor from palpation will show only as a small nodule, not adherent, but upon exposure and amputation of the breast infiltration will be found extensive.

An important point in amputating the breast is to excise the lymphatics, the tumor and everything else in one mass. Do not remove the gland and then proceed secondarily to excise the lymphatics, but make a wide incision including the entire gland and lymphatics; do not divide any of the lymphatic vessels, for fear of inoculation of the tissues and transplantation of the disease.

My experience in cancer of the breast has been limited to three cases. In one case, although a complete operation was performed, the fascia and muscle being removed, recurrence took place in the cicatrix in less than two months. The second case was reported to this society a short time ago; the woman is still perfectly well. The third case I was unable to follow.

I agree with the statement that where we find extensive lymphatic involvement, that even the most thorough operation possible will sometimes fail to cure these cases. We will have a recurrence in spite of the most radical treatment. Glands are diseased which it is impossible to discover by palpation or reach by the most careful and extensive dissection; they cannot possibly be removed unless we could follow the lymphatic vessels more extensively than we are able to do. There is no case of cancer of the breast upon which we may operate where we can promise the patient anything. We do not know in what case there will or will not be a recurrence, nor do we know how soon recurrence will take place in any case.

Dr. A. M. Vance: I have performed a great many operations upon malignant disease of the breast, and desire to say in the beginning that up to the present time I think the surgeon has failed to do a great deal in such cases. This may also be applied to cancer in other situations, excepting possibly epithelioma about the face and mucous surfaces. When a surgeon operates for cancer of the breast he never knows how much good he is going to do. However wide or however deep he may go, he cannot state positively how much good he will do in prolonging life, or how soon a recurrence of the disease will take place. Why some cases with incomplete operations will live a long time, as I have known them to do, and why in others with apparently the same class of tumors notwithstanding the most complete operations, the disease will recur and destroy the lives of the patients in six weeks or in six months, I am unable to say. These, however, are facts, and no man can prognosticate which way a given case will go. I recently performed a secondary operation upon a case of cancer of the breast that had failed to recur for fifteen years. I have a few cases that have passed the three-year limit, and one that was operated upon two years ago without recurrence. The case mentioned in which there was not a recurrence for fifteen years, Dr. Yandell operated upon primarily, and I removed a secondary cancer of the breast recently. The patient is now over seventy years of age.

Cancer, to use a common expression, rather "knocks the surgeon out," as he cannot tell whether it is general when he operates or whether it is local. I believe that all tumors of the breast should be promptly removed. I further believe in removing all tumors of the breast where we feel we cannot prolong the patient's life or otherwise render them much assistance in this respect, as we can by operation, save them considerable horror of the feeling that they are incurable, that the ulceration at the site of the breast may be prevented. We should do a complete operation, removing as far as possible the local disease, thus making the patient as comfortable as we can; metastases will occur and death will take place without there being any local recurrence.

I question very much, with our present ability to handle these cases, whether the very wide operations are justifiable, the Halstead operation for instance, for the reason that we cannot promise a sufficient amount of relief or immunity from a recurrence. I believe if the glands above the clavicle are demonstrably involved that we cannot possibly remove the small lymphatics in that locality, as they cannot be seen or felt.

Breast operations are not attended by any great danger. I have lost but one patient from operation for cancer of the breast primarily, and that was the only case of cancer of the breast that I have ever seen in the negro. She died soon after the operation, not, however, as a result of the operative interference, but because of an overdose of morphine. I do not consider it a very dangerous operation; therefore, we are justified in doing it as a cosmetic procedure in cases where we can hardly feel that it is going to be a life-saving operation.

Dr. J. G. Sherrill: A point that is sometimes overlooked in operating for breast cancer is in not making the operation sufficiently radical, as far as the skin is concerned, in the immediate neighborhood of and covering the tumor. It must be remembered that the skin may be involved, and we should be absolutely certain in all cases to go wide enough in making our incision to insure against the chances of infection from the skin. We frequently see recurrences in the cuticular structure, which even later does not involve the deeper structures. Metastasis occurs in most cases before the primary operation is performed. Sometimes where every particle of diseased tissue is removed, visceral disease without local recurrence takes place, which goes to show that metastasis occurred before the operation. In such cases the operation has no effect upon the course of the disease, as it does not hasten the patient's death. However, we should give them the benefit of the doubt in these cases and do a radical operation.

Recent statistics show that 13 per cent. of cases operated upon in the early stages of breast cancer have passed the three-year limit, and of those cases which have passed the three-year limit only 2 per cent. have recurred. This is a much better condition of affairs than existed a few years ago. The mortality has also been reduced until some operators claim now to have a death rate of less than 1 per cent. This gives us an operation attended with little danger and some considerable success. Of course, the success is not as great as we would like, still it is sufficient to justify the operation being undertaken in most cases.

As far as making diagnosis of breast tumors is concerned, it has been recommended, and I think, rightly, too, that at the time of the operation a specimen of the growth should be placed under the microscope by a competent microscopist and an opinion elicited at the time as to the character of the tumor with which the operator is dealing. This will enabe us to determine with some accuracy the question as to whether or not a complete operation shall be done in a given case. If malignant, we should invade the axilla thoroughly and make the operation as radical as may be necessary. If

non-malignant we may only be justified in removing the breast itself.

Dr. Jas. S. Chenoweth: My experience with operations for malignant tumors of the mammary gland has scarcely extended over a sufficient length of time to justify drawing radical conclusions from personal knowledge. I can, however, trace several cases which have exceeded the three-year limit without recurrence, the patients remaining well up to the present time. In the practice of several friends, where I have been associated in the operations, I can recall a number of cases that have gone six or seven years without recurrence, some of which promised very little at the time of the operation.

I believe we have the promise of much better results in the future than we have had in the past, and these results are to be obtained by educating our patients on the one hand and our surgeons on the other; the patients to consult the surgeon upon the first appearance of a tumor in the breast, and the surgeon to do a most radical operation immediately. I notice that nearly every one here to-night speaks of the radical operation for breast cancer as if it were only indicated in advanced cases where there is involvement of the glands, muscles, blood-vessels, etc. In my opinion, these are the cases in which it is least indicated, for the dangers of the operation are in such instances greatly increased and the prospect of a cure correspondingly diminished. If we would do this radical operation for small growths of the breast, before the surrounding structures become involved, we would show a much better rate of cures.

As to statistics: Halstead's report in 1894 claims 6 per cent. of local recurrences in a series of fifty selected cases. I worked over the figures very carefully at the time his report appeared, and do not believe we are justified in taking such a sanguine view as his claim would indicate.

Dr. F. W. Samuel: It was not my intention to refer particularly to statistics of operations for breast cancers, or our ability to make diagnoses, but after the diagnosis has been made to review the plan of treatment to be pursued.

Dr. Anderson's experience has been like others whose operations have been incomplete, where operations have been undertaken for breast cancer, even in the early stages where a small elliptical incision was made through the skin, where the fascia was not removed nor an exploration made for enlarged glands in the axilla. In such cases the disease usually recurs promptly.

From my observation and reading it seems undoubtedly true that cancer of the breast is increasing largely in this country. It appears to be one of the products of advanced civilization.

In performing the complete operation it is unnecessary to go above the clavicle in our search for enlarged lymphatic glands. I carefully read Halstead's report, and am sure he says that he removed glands as high as they are found to be enlarged, and in some of his operations does not go above the clavicle. Some of his cases have not reached the three-year limit.

In operating for breast cancers even in the early stages, we should take the position that has been adopted by the best operators in the world, that is, that we never know whether the axillary glands are involved until the axilla is exposed, and the latest investigations show that these glands are usually involved before the patient applies to the surgeon for treatment. We cannot tell when the pectoral muscle is involved; that would require a microscopical examination. I believe it is better to remove the pectoral muscle, inasmuch as it is attended with little additional risk to the patient, and the deformity resulting therefrom is insignificant. Halstead lays down one rule which it is well to bear in mind, viz.: that the pectoral muscle is likely involved at the time of the operation. No matter how carefully we may split the fascia from the muscle we cannot be positive that the cancerous germ has not been disseminated. The cancer not only recurs locally, but there is also visceral metastasis. It is a well recognized observation that visceral metastasis often takes place long before there is a local recurrence of the growth, and for this the surgeon is not to be held responsible. Halstead makes the statement, however, that we ought to be held responsible for recurrences in the axilla, in the infraclavicular region, or in the integument around the tumor itself. We cannot be held responsible for visceral involvement, or for regional recurrences where dissemination of the cancerous elements has taken place before the operation.

I believe in radical operation, and agree with Halstead if we are to have success we must be radical and operate early. The pectoralis major muscle, the fascia, the contents of the axilla, and often as high up as the middle of the clavicle, should be removed in one section. To divide a cancerous mass during the operation is to subject the patient to the danger of reinfection. The local recurrences which give us the most trouble are those which occur as fungoid masses, making the patient's life exceedingly miserable.

I believe that the consensus of opinion is that the life of a cancer patient never exceeds three years if the disease is allowed to take its natural course. In making this statement I am aware of the so-called atrophic or withering cancers which are reported to have lasted fifteen years. Velpoie removed by circular amputation a cancer of the breast, of the withering variety, which had been in existence fifteeen or sixteen years. Such cancers are evidently of very slow growth, and we must bear in mind that there may have been some mistake in the diagnosis where such cases have been reported.

Sands stated that he had never seen a single case of breast cancer, save one, that lived beyond the three-year limit after the operation, that is in cases where the diagnosis of cancer had been proven by microscopical examination.

Beta-Eucain Infiltration Anesthesia.—In an elaborate paper entitled "Experimental Investigations on Infiltration Anesthesia," from the private surgical clinic of Dr. H. Braun, in Leipzig, Dr. Paul Heinze of Dresden, thoroughly examines into the value of the various local anesthetics, fixes the limits of their efficacy, and ascertains the factors which are essential to the determination of the usefulness of a material to be employed for the production of infiltration anesthesia ("Archiv für pathologische Anatomie und Physiologie und für klinische Medicin," Vol. 153, No. 3). This is the first comparative investigation which has been made in a thoroughly scientific and unimpeachable manner.

He recommends for the infiltration anesthesia the following formula:

Beta-Eucain....	0.1 gram (1½ grains).
Sodium chloride	0.8 gram (12 grains).
Distilled water..	100.0 grams (3¼ fluid ounces).

Such a solution is permanent, and can be boiled and sterilized at any time and as often as is necessary. It causes absolutely no swelling or irritation of the tissues; the Beta-Eucain alone is the anesthetic factor.

THE CLINIQUE.

THE NEWER TREATMENT.

TREATMENT OF ACUTE ARTICULAR RHEUMATISM.

THE first case of which I wish to speak is that of an Italian who came to the hospital with pain, redness and swelling in the wrist joints, and also pain in the shoulders. It is sometimes difficult to differentiate between articular and muscular rheumatism, but this case was unmistakable.

The man was given ten grains of salicylic acid every hour for six hours, making a dram in twenty-four hours. This was given on three successive days and then stopped, no more having been given since. I have it given in five-grain pills, two at a dose, and followed by two ounces of milk. The general belief is that salicylic acid relieves the pain in these cases, but has not much effect in shortening the course of the disease. The relieving of the pain, however, even if the drug does no more, is a great factor in the treatment. It not only adds greatly to the comfort of the patient, but long-continued pain of itself may put the patient in a bad way for recovery in some instances. Salicylic acid should not be given for long periods of time, as ill-effects are apt to follow. It was given for three days here, and I think that was plenty long enough. The improvement of the patient has been good, but at the same time slow. This is apt to be the course in all instances of the disease.

After the salicylic acid was stopped the patient was put upon the old alkaline treatment, and has been given fifteen grains of the acetate and twenty grains of the bicarbonate of potassium every four hours.

The most definite sign that the heart is affected in cases of rheumatism is that it becomes irritable. It is difficult to tell in all cases whether this irritability is due to endocardial involvement or whether it is due simply to some process connected with the febrile movement. There is a systolic murmur heard at the present time in this case, but I think it is a blood murmur and of little importance to the patient. The distinction is usually made that the hemic murmur is louder at the base than at the apex, but if the examiner rely on this alone when differentiating it from an endocardial murmur, he will frequently be mistaken. The differential diagnosis between the two is more a matter of experience than of rules, in my opinion.

Another point I wish to speak of in connection with the case is that on the day after admission the urine was examined, as a matter of hospital routine, and was found on boiling to be almost solid with albumen. This might signify a very serious condition, but the man was not sick and no great attention was paid to the condition, except to watch the urine. The next day there was a little bit of albumen present, the second day but a slight trace, and on the day following had entirely disappeared and has not since returned. It is important to estimate the meaning of this condition when it appears, as regards the instituting of treatment. Frequently nothing happens to the patient, as in this instance. I have seen it so repeatedly. One woman was sent here suffering from a violent headache and the urine full of albumen. She did not look ill, so she was treated for the headache and carefully watched. In a day or two the albumen entirely disapneared, with no after-effects whatever. It is reasonable to suppose that this condition may come on temporarily, the same as we have a severe headache, etc., at times. I have long ago made up my mind that we may have attacks of acute congestion of the kidney, with almost solid urine on boiling, and have nothing come from them.

CONTINUED FEVER FOLLOWED BY TYPHOID.

The second patient is a tailor, aged eighteen, whom I had in the clinic three weeks ago. He had never been sick before, but had felt badly for four weeks previous to admission. He had had vomiting, pains in head and abdomen, slight chills and some diarrhea. After admission the only objective symptom was the continued fever. This was about 101°, reaching 102° at one time, when he was sponged. He was given dilute muriatic acid. and improved steadily. I decided at the time the patient was first shown that if he continued to convalesce the case would be put down as simple continued fever, but remarked that I had seen such patients convalesce and then have a definite attack of typhoid fever.

The further history of the patient is this: The fever continued for fourteen days in all and then the temperature became normal and the man seemed entirely convalescent, as the fever had been practically the only symptom. In a day or two the temperature rather suddenly rose to 103°, spots appeared on the abdomen, and the patient has had a typical attack of mild typhoid fever. The Widal test was negative during the first attack, and positive since the last began. The test was all right here, but it was not needed at either time to settle the diagnosis. In doubtful cases, where it is really needed, is the place where it often fails.

In regard to the continued fevers, it is a fact that they are occasionally seen to be followed by an attack of typhoid. The first case I observed was that of a woman in private practice, who had fever for ten days and was thought to be cured. In a few days, however, typhoid set in and run its course, both types being severe. In this case both have been mild i ncharacter. I can give no explanation of why this sequence occurs at times.

The treatment in this case was the giving of 5 minims of muriatic acid every four hours, and cold sponge when the temperature reached 102°. This was done every three hours, and the patient was sponged for fifteen minutes. In regard to the use of cold in typhoid fever, I do not believe in the sponge bath as a routine. I am opposed to the lifting or moving of a patient necessary to get him into the tub. However, the enthusiastic employment of this method in some parts has been of use in forcing practitioners to the more free use of water. The sponging used to be a feeble process. But little water was used and this was put on in a half-hearted way. Now the process is systematized and made effective.

The treatment in this hospital is carried out as follows: A rubber sheet covered with a blanket is placed under the patient and he is covered by another blanket. For some reason, I do not know exactly why, the abdomen is not sponged, but is covered by a cold compress, which is changed often. This leaves practically seven parts to be sponged—the head, front of thorax, back, and the extremities; these parts are exposed one at a time and sponged for a couple of minutes, the rest of the body being covered. The temperature of the water used is 50° or 52°. Where the patient shakes a great deal from the cold or gets too blue, the temperature of the water is raised or the sponge omitted.

As regards the sponging, I think it is too routine in hospitals as given these days. System must be used, so every three hours, if the temperature is above a certain point, the patient is sponged for fifteen minutes. More

intelligent supervision is needed, and this is easier attained in private practice. Sometimes the patient is too much chilled by a regulation sponge. The time should be less at certain applications, the water warmer at others, etc. Sometimes the sponging should be omitted, even when the temperature is at the stated point, especially at night. The treatment should be adapted more to the individual case and not adhere so strictly to set rules, and I think that some time the treatment will be changed to comply more with the condition present in each patient. On the whole, there has been a decided advance over our first attempts at using the treatment, but it needs still further improvement.

THE TREATMENT OF ASIATIC CHOLERA.

From the fact that the bacilli of this disease are found only in the stools of the patient, or under rare circumstances in the vomited matter, the public should be made to grasp this fact thoroughly, and to realize that vigilance in disinfection will prevent the spread of this disease. If every individual understood this and would exercise due precaution, cases of Asiatic cholera could be treated in hospitals without danger to other patients.

But, as in other contagious diseases, prophylaxis is of the utmost importance. The patient should, therefore, be isolated, and the disinfection of the dejecta and in contaminated clothing be very thoroughly carried out. Cases could be treated with immunity anywhere if the dejecta are properly disinfected. However, to accomplish this with the greatest degree of certainty, it is necessary, of course, to isolate the patient.

The quarantine in regard to incoming ships must be on board of ships or on islands, as those established on the mainland are proved to be ineffective. The passengers and crew of ships where cholera has appeared should be removed to quarantine stations and the ship and all articles of the cargo that have been at any time exposed to the possibility of infection should be thoroughly disinfected. A quarantine at the port of debarkation also would be much better from all points of view, but this is practically impossible to enforce or establish. The greed of steamship companies, the haste of passengers and commercial necessities make the idea an almost hopeless one, though practically no better precaution could be taken where there was any reason for suspecting the presence of cholera. The physician and those in authority on shipboard should consider it of the highest importance that all cases, or suspected cases, on board be isolated.

During a land epidemic, depopulation of a community is as important as in epidemics of yellow fever. It is greatly to be desired that a panic be avoided, but when the disease breaks out an effort should be made to find how the germs are spreading, whether they are in the water, milk, etc., and then to get all people not already exposed away from the locality. If, for instance, the town have a population of 500 and there be 20 or 30 cases of cholera and the whole number have not been exposed through the water being contaminated; if 450 get away to a healthy locality, it makes just so much less material for the disease to work upon. It is a measure to be adopted, therefore, not only for individual safety, but for the public good.

Every suspect should be isolated, stools examined for positive proof and then disinfected. Systematic house-to-house visitation should be carried out by physicians or public-spirited citizens every day, in order that cases of beginning diarrhea be known at once and treated as suspects. Distribution of circulars setting forth facts regarding the disease, food, suspects, disinfection, etc., should be made. It is of the greatest importance to have it thoroughly understood that all nurses, physicians and those who handle the dead or their clothing should not touch food, tobacco, or even put their hands to their face until they are completely disinfected. Cases of gastro-intestinal disturbance, even those of chronic catarrh of the digestive tract, should be either sent away from the place or treated in bed with tonics, stimulants, intestinal disinfectants, etc., as such persons are very subject to cholera. Hydrochloric acid lemonade should also be given such persons freely, as indeed to other people in any way exposed. In some way this mixture acts as a prophylactic. Inoculations with attenuated virus have been made during epidemics, in one instance 32,000 being treated in this way. The value of this method has not, however, been fully established.

The treatment of individual cases may be divided into the different stages of the disease. First is the stage of premonitory diarrhea. It is considered good practice by those who have dealt with large numbers of cases to give a prompt laxative. Many are in the habit of giving a purgative dose of calomel and, after the bowels are thoroughly evacuated, continuing the drug in small doses of ⅙ to ¼ of a grain every two hours. If pain be present, morphia hypodermically should be given. During this stage intestinal antiseptics, such as salol, guaiacol, etc., are largely used.

When the second stage or that of serous diarrhea comes on, external heat should be applied and local frictions may be of use. If vomiting be severe, food should be stopped, and but little fluid given by the mouth. Pieces of ice, or acidulated ice-water in very small quantities will relieve the thirst. If there is a tendency to collapse at this time, warm baths at a temperature of 100° to 103° are indicated. Brandy should be given and enteroclysis may be practised. The water used should be at a temperature of 108° or 109°, and given in the amount of two liters at a time. To it should be added five or ten grains of tannin, fifty drops of laudanum and a small amount of gum arabic. Often the first will be rejected at once, but further attempts succeed in keeping some in the bowel for a time. The objects attained are first to wash out the bowel. Second, the tannin helps in the precipitation of the toxic materials in the intestine, and third, the hot water helps in warming the body. This procedure should be repeated at intervals of two hours. Rises in temperature of from 1° to 3° have been noticed.

During the third stage or that of collapse, enteroclysis may be continued. The stomach should be washed out with, preferably, a one to one thousand hydrochloric acid solution. Hypodermoclysis may also be well employed at this time. Strychnine is of use, but care should be taken, lest a cumulative action be exerted when reaction sets in. This is almost sure to follow if the drug be pushed. The administration of quinine in acid solution has been recommended, and this is reasonable both as a method of prophylaxis and during the course of the disease.

Convalescence, if it occurs, lasts from several days to a fortnight, and needs no particular treatment beyond regulating the diet and the taking of measures to prevent the recurrence of diarrhea.

CHOREA—ITS ETIOLOGY AND TREATMENT.

We have in this little girl of nine years a case of true chorea, involving the trunk and lower extremities as well as other parts of the body. I do not believe the

symptoms in these cases are in any way a sequel of rheumatism, which is a view held by some. The pains are most probably in the nature of prodromal affections. The latest theory in regard to the disease is that it is an infectious one. Reports have been made of bacteria being discovered in the nerve tissue in a few cases examined for this purpose. Some of these reports are open to objection, however, as to their thoroughness and results. Whatever may be the truth in regard to them, no definite organism has as yet been isolated. But there are good reasons for believing that the disease is an infectious one. It comes on gradually with prodromal-like pains, continues for a period and stops of itself if no treatment be instituted. It is also particularly a disease of the spring and fall, when the seasons of changing.

This girl need not be confined to bed all the time, but she should be put to bed very early at night and thus given plenty of rest. She should be bathed regularly and often, and fed well. Not much meat should be given, but diet should consist more of vegetables and fruits. Milk is especially good in these cases, and should be used in large amounts. Milk is an excellent food in all cases of nervous affections and should be given freely.

Fowler's solution in increasing doses is the drug that usually gives good results in these cases. But there are times when it will be found that arsenic fails to produce the desired effect. The movements will continue and rather seem to increase under its use. Cimicifuga should then be tried, and this drug will be found to be almost as valuable as arsenic as a specific in all cases. However, there are still other cases where this drug fails also in controlling the patient. The movements will be violent, the patient cannot sleep and is becoming exhausted from sleeplessness and the constant motion of the body. These cases formerly were treated by the bromides and chloral, but very inefficiently. Of late we have two drugs that are very effective at such times—trional and sulphonal, especially the former. Given in two-grain doses every four hours to a child of this age, or even in larger doses if necessary, it gives very good results. Some practitioners use the bromides and strychnine in treating chorea, but in my experience this method is far inferior to the use of Fowler's solution.

EXOPHTHALMIC GOITER.

This patient is one who was before us some time ago suffering from a marked attack of exophthalmic goiter. She has had rest, an abundance of milk in her diet, and has been given the glycero-phosphate of sodium. To-day she is much better. The thyroid gland is smaller and the exophthalmos is markedly less. We see many patients suffering from this disease improve and finally get well in some instances, when put on this treatment. If, however, this course should be followed for several months without benefit to the patient, then a portion of the gland should be excised. The disease is undoubtedly due to overaction of the thyroid and thus is really an intoxication. For this reason the removal of a part of the gland by diminishing the production of the intoxicating agent benefits the patient. The glycerophosphate of sodium should be given in the dose of twenty grains three or four times a day.

NEURASTHENIA.

The young woman of whom I now speak has the typical symptoms of neurasthenia. The treatment of these cases should be rest in bed for weeks or even months, if possible. Sponge baths should be given regularly, and these should not be cold, but instead should be hot. Alcohol rubbings are also of service in many cases. As to the diet, not much meat should be allowed, as uric acid is generally in excess in this condition. Starches should also largely be excluded from the diet. It is better not to give hypnotics in these instances for inducing sleep. Baths, massage, etc., will generally be found efficient for this purpose. This patient sleeps quite readily if hot milk is taken before retiring.

It should be remembered that massage excites the patient in some cases, and great care must be taken in its application. It is better to tell the masseur when sent to a patient to make only a pretext of rubbing the first time or two. There are often areas of hyperesthesia which call for very careful manipulation, and gentle stroking should be used at first. Over any area deep massage should not be used under ten days or two weeks after beginning the treatment.

EARLY HEMIPLEGIA.

This patient is a man of thirty-four, who had had an attack of hemiplegia seven years ago. The attack came on suddenly at night and had been preceded fifteen months by an initial lesion of syphilis. This is comparatively early for nervous manifestations, but I have seen them come on in three months after the initial lesion. One case of hemiplegia came under my observation in which the patient was still suffering from the secondary symptoms. This case is interesting in that the paralysis came on while the man was under treatment for the specific disease.

Such cases are very unfavorable, but treatment should be inaugurated. My experience is in favor of mercury for such patients, the iodides being of comparatively little good. One dram will be used each day unless physiological action develops. Later on the iodides may be given a trial and will be used in very large doses if at all, but they are not liable to do much good. Passive movements, massage and electricity will be resorted to. When applying electricity to a spastic limb care must be taken or more harm than good will be done. Some groups of muscles are overactive, and these must be let alone. Other groups are inactive and these need stimulation.

CASE OF SPLENIC ANEMIA FOLLOWING PROTRACTED MALARIA.

The first case of which I speak is one rather difficult of analysis. The patient is an Italian girl of sixteen who has been in this country for eighteen months. Her previous history that is obtainable is rather unsatisfactory, but this much is known—that she has been steeped in malaria and has had recurring chills since she was six years of age. These chills recur every year, but it is not known at what time. For the past three years she has been very pale and sallow, and for three months has been getting very much weaker. There have been no chills during this time, so far as can be learned. There is no history of jaundice. The patient has had anorexia and has suffered from abdominal pain and constipation. The spleen is distinctly enlarged, extending two fingers' breadth below the border of the ribs. The first sound of the heart is short and ill-defined, and a hernic murmur is heard at the base and over the left carotid.

Microscopic examination of the blood shows the red cells to number 2,250,000, and a test gives the hemoglobin to be 50 per cent. We have here then a case of splenic anemia dating back to the long-continued malaria.

Search was made for the malarial organisms in the blood, and the estivo-autumnal variety was found and the malarial origin of the anemia thus confirmed. There are two points to be noticed here in connection with this case.

First, it is a rather rare occurrence to find organisms of malaria in the blood except after a chill. Often many slides will be examined with no result until a chill occurs, when they are detected without trouble. But here no chill occurred. This is to be taken as a sign of the profound hold of the organism upon the system of the individual.

Second, the estivo-autumnal variety is the one usually found in long-protracted and severe cases of malaria, such as are typical of southern climates.

The treatment in this case has been to put the patient on ascending doses of Fowler's solution, beginning with three drops three times a day. In addition to this a method is used which has given strikingly good results here and elsewhere, namely, the inhalation of oxygen. This is perhaps not so much indicated as if the condition was more of leukemia in addition to the anemia, as in cases of leukemia the results are remarkably good, but it will help in this case and will be used.

We will also give an agent from the use of which we have seen great improvement when treating the enlarged spleen of malaria. I refer to ergot given in the dose of half a dram three times a day. This may often be combined with arsenic or iron very advantageously. In some way it seems to help in contracting the spleen and also adds to the efficiency of the arsenic or iron, whichever it may be used with. But little result is obtained from the use of quinine in such cases, unless there be an acute outbreak, as chills, etc.

CRISIS IN PNEUMONIA.

I wish next to speak of two cases of pneumonia. In many respects the two cases are alike. Both began with a chill and both were affected in the lower part of the left lung. The cases were treated practically the same, being given what is really the routine treatment at this hospital, except that stimulus is given only when directly indicated. The treatment consisted of $^1/_{40}$ of strychnia every four hours, and ½ ounce of whisky and 5 grains of carbonate of ammonium every three hours. In addition to this, a remedy was made use of in the first case which, for twenty-four hours, proved very beneficial. The patient seemed very much oppressed and inhalations of oxygen were given every ten minutes at first and finally every hour. This gave great relief, the patient herself asking for its continuance.

Both patients did well under the treatment instituted. During the seventh day of the disease in the first case the temperature fell from 103° to normal within twelve hours, being an apparently complete crisis, though the physical phenomena did not change. The temperature remained normal for fifteen hours, then, without apparent cause, rose to 104.4°. Shortly after a secondary complete crisis occupying some fifteen hours occurred.

In the second case, crisis also occurred on the seventh day, the temperature falling from 104° to below normal in twelve hours. Here the physical signs also changed at the same time.

It is worth while to study the crisis in these two cases. It is instructive to note that when crisis takes place there is not always a change in the other phenomena of the case corresponding to the sudden fall in temperature. Hence we should not expect marked changes in symptoms at this time, as they may or may not occur. I have known the physical phenomena to remain the same for three or four days after the crisis has occurred. The first case is interesting as showing the rise of temperature to a higher point than at first and without apparent cause after the supposed crisis. Does this, with the secondary crisis, have any meaning, and does it signify any fresh infiltration of lung tissue? It does not, as that would constitute a relapse. Nothing was different here, and the rise was unaccountable so far as any clue to the condition could be found in the lung. It is due to something connected with the fever process but which is not understood at present.

Another point. Is there any danger in crisis in pneumonia, and is the secondary crisis of any more danger than the first? The crisis is not dangerous if it is looked out for and the patient is managed right. If exhaustion is prepared for and stimulants are given, warmth applied and perhaps quinine administered, if exhaustion comes then there is really no danger. Secondary crisis is of no great importance and is attended by no more risk than the first if the patient be sustained. Not all cases recover by crisis, and these are generally considered as not being so favorable.

The first case shows an almost clear lung to-day. She has been getting tonic doses of quinine and tincture of nux vomica for a short time. This will be changed and she will be given ten grains of chloride of ammonium in two drams of compound licorice mixture four times a day. There are some signs of delayed resolution in the second case. She has been getting chloride of ammonium also, but this had best be changed to the iodide of ammonium, five grains three times daily in syrup of ginger and water. She is still taking strychnine three times a day and this will be kept up. To aid resolution and promote absorption, an ointment composed of twenty grains of iodine and ten grains of camphor to the ounce of lanolin will be rubbed in over the affected lung night and morning.

RELAPSE IN TYPHOID FEVER.

This patient is a girl of nineteen, and there has been nothing special in the course of the disease except the relapse. This occurred in the fourth week of the attack after the temperature had been normal for three days.

In examining the question of relapse in typhoid fever the following points are noted: It comes on after four or five days' freedom from fever. The majority are not preceded by a chill. The fever attains its height quickly, and as a rule lasts from ten to twelve days. The eruption often but not always appears. What symptoms return come quickly.

Two cases in my experience had each seven relapses. Hemorrhage is not apt to occur, but one of the patients mentioned had hemorrhage in the fifth relapse. Relapses used to be attributed to errors in diet, but this has little to do with the matter. I am almost prepared to say that it has no effect whatever in this direction. What symptoms come from indiscretion in diet are simply the result of irritation. Relapses are caused by toxins which have been concealed in intestine or elsewhere and reinoculate. This only explains the cases of many relapses. They should be treated exactly as the first attack.

SYPHILITIC LIVER AND SPLEEN.

I show first some specimens from a man who died of erysipelas as a complication of a previous chronic disease. He was in the hospital, being treated for disease of the liver, supposed to be cirrhosis, and was about ready to be discharged when he was seized with acute erysipelas, which proved fatal. The autopsy was a remarkable one in some respects.

The liver is large, hard and not strictly a cirrhotic one, being more fibroid. It is smooth when cut, the capsule is thickened and is dotted with scars. Little nodules are apparent here and there, but are not marked. The man also had chronic adhesive peritonitis with effusion, twenty-two gallons of fluid having been taken from the abdomen. The spleen is enormously enlarged, bound down by adhesions, the capsule also showing white spots. When cut it is rather red and full of fibroid matter. A test shows no amyloid degeneration. There is a history of syphilis in the case, and it is quite clear that it was not ordinary cirrhosis of the liver, but syphilitic liver and spleen.

A few remarks upon the clinical side of such a case. One cannot absolutely recognize a syphilitic liver during the life of the patient. It most closely simulates cancer of the liver by its nodular appearance, though in this case the nodules were less marked than in others I have seen. Irrespective of the modules there is also pain and tenderness in both.

As to the differential diagnosis, the pain and tenderness is infinitely greater in cancer of the liver than in syphilitic involvement. As to the ascites, as a rule, it is not present in syphilis and is common in cancer. Here was an exception to the rule. The distinction between syphilis and hypertrophic cirrhosis is that the latter has not the pain and tenderness, and the dropsy is not so marked as in this case. Still there is no certainty between these two, as syphilis may be a causative element in cirrhosis. The fibroid spleen found here is a remarkable specimen, and I think part of the dropsy was due to this spleen.

MALARIAL FEVER IN TYPHOID PATIENT.

The case is that of a man in the hospital during an attack of typhoid fever. He was getting well, when he had a relapse. After this recovery was progressing, when right-sided milk leg developed. It is not because of this I bring the case before you, however, but on account of the fact that on the fifty-ninth day of the typhoid fever the patient had a chill followed by a temperature of 104°. Three days after there was a second chill. The blood was examined and found to be full of malarial parasites.

Here then was an illustration of malaria with typhoid fever. I have a record of fifteen or more cases of this in the hospital here, showing that there is such a combination of the two diseases. I say combination, as the disease is not a special type. It shows that the malarial parasite must have been dormant in the system during the attack of typhoid, as the disease could not have been contracted in the hospital. The infection was probably before the typhoid fever infection, but the latter asserted its influence first.

The practical lesson is taught that whenever a chill is met with in typhoid cases, malaria should be suspected and a blood examination made. I do not teach that chills in typhoid always mean malaria, but that this disease may be at the bottom of the trouble, whether the chills begin toward the end, during the middle, or at the beginning of the typhoid attack.

The treatment is to dose heavily with quinine. I say heavily, because in several instances I have seen ordinary doses have absolutely no effect. Where an ordinary dose of sixteen to twenty grains is utterly inefficient, thirty or forty may give good results. A patient weakened by typhoid can ill afford many malarial outbreaks.

As an interesting point there has been a curious form of delirium associated with the case. This was a delirium of grandeur like that seen in cases of paresis. There is nothing in the case that calls for special treatment. The quinine will be cut from twenty to ten grains per day. Considering the leg condition, twenty drops of tincture of iron will also be given four times daily.

AN ANOMALOUS CASE OF MALARIA.

This patient is a man of twenty-two who has suffered from repeated attacks of malaria. The skin shows a curious appearance, there being a general pigmentation with areas of white between the pigment. This condition is most marked on the abdomen and chest. On the left thigh is a white spot 2 by 2½ inches. These white spots may be congenital.

The curious part of the case remains to be told. Two days ago an eruption appeared on the man's body. The face, abdomen, arms and legs were covered, the back being the least affected. This eruption was characterized by an appearance peculiarly like that of the rash of measles, even assuming the crescentic form in places. There was a dry cough and no injection of the eyes, yet the appearance of the eruption was so absolutely like that of measles that the patient was isolated. Two hours afterward the rash had entirely disappeared.

When the patient's mind had become more clear, it was found that we had been misled by this rash and that it was peculiar to the man. He has had it many times, with or before the chills.

The question as to whether eczematous eruptions are common in malarial fever comes up. I have never before seen such an eruption in intermittent fevers. I have seen an urticarious eruption in the estivo-autumnal type of malaria, but here this could not be regarded as urticarious; first, because it possessed a general redness, there being no signs of wheals and, secondly, because it was attended by no itching, or by such a slight degree as to be practically absent. It shared with it in this fact that the eruption appeared and disappeared rapidly.

Again, was this rash connected with the fever or was it due to quinine? The man is very intelligent and clear in his statements, and states that he has had the rash at least ten times, and that it has come on with or before the chill, when absolutely no quinine has been taken. That it is independent of quinine, is borne out by the fact that the patient is now getting twenty grains of quinine per day, but has not had the rash since the time mentioned.

The pigmentation of the skin is probably due to the eruption, as repeated attacks of erythema are apt to give this. I cannot say as to the exact connection of this eruption with the pigmentation or with the disease itself.

CARDIAC HYPERTROPHY AND ITS TREATMENT—MANAGEMENT OF PERSISTENT VOMITING.

The patient showing cardiac hypertrophy is a woman of fifty. She has suffered from dyspnea and palpitation since May last. The heart is greatly enlarged and double pulmonary and double aortic murmurs are heard. The urine has a specific gravity of 1034, is

faintly albuminous and has a few scattered hyaline casts.

The hypertrophy is of more importance here than is the aortic condition. I do not believe much in what is called compensatory hypertrophy. It is not simply a sound heart muscle increasing in size and strength to meet the demands upon it. It must be remembered that it is part of a pathological process, and that the heart is always diseased when in this condition. There is some fibrous tissue in the muscular structure, and the heart is not stronger but really weaker. In this case there is some fibroid disease of the kidney also.

The treatment has been ten minims of digitalis every four hours for two days, then five minims three times a day, and this amount will be kept up indefinitely. These cases are not curable, but they often live for years if they are careful and stay within the limits which the condition necessarily makes. Digitalis is better given as has been indicated—considerable doses for two or three days and then diminished. Five minims can be given three times a day for years without giving rise to any untoward effects.

THE TREATMENT OF BRONCHITIS, ACUTE AND CHRONIC.

Prophylaxis is most necessary in connection with this disease; it consists simply in avoiding predisposing influences. The so-called hardening process as applied to children predisposed to the affection is to be discountenanced and in fact is almost criminal. On the other hand, the judicious application of cold water to the head and neck may do good in some individuals. Less heat and more air than is generally found in the nurseries of our overheated houses is desirable. As the circulation of children is easily depressed and owing to their size their bodies are near the ground, young children having any predisposition to the disease in question should not be allowed to walk on the ground when it is damp or cold. Garments should be loose to permit of the protection afforded by a layer of air between them and the body. The air contained in garments that have meshes has much to do in preventing colds.

For the attacks themselves, when they develop simple hygienic measures, are of importance. Rest in bed, diaphoretics, a purge, and, if there is difficulty in breathing, steam inhalations may be given. If there is much pain and discomfort experienced by the patient, benefit will be derived from the use of a mustard plaster or turpentine stupes. Poultices should not be applied. Dry cups do well at times, but bleeding is unnecessary. For the relief of cough minute doses of opium or some of its derivatives answer the purpose very well. Dover's powder is particularly useful. When signs of a fluid exudate appear remedies such as ipecac, squill, senega, ammonium chloride, or apomorphine may be given. The latter is probably the most useful of all the expectorants if it be given rightly, especially in childhood. Given in the dose of one-sixteenth to one-eighth of a grain every one or two hours, it will exercise its expectorant effect before causing nausea or emesis. If carefully administered in these doses its influence can be confined to the mucous membrane of the respiratory system instead of the stomach. If the disease is not running a favorable course, tepid baths or wet packs may be administered. When the process extends to the smaller tubes, emetics will prove of great service.

I have advised opium for the relief of cough. There are a number of other drugs used for this purpose, but in my opinion opium holds the highest place. But there is an element of danger in the use of this drug in bronchitis. It should be given in small doses and its effect carefully watched, the patient being warned to be on guard against any drowsiness that might develop if too much be used.

TREATMENT OF CHRONIC BRONCHITIS.

The first thing indicated is the removal of the patient from the influences causing the disease. This is largely the secret of climatic cures. In my opinion, the favorable influence of climatic change in this affection has received too little attention. It has yielded equally brilliant results and in as large a number of cases as has the same treatment in patients suffering from tuberculosis. The idea of benefit from this method should not be confined so largely to tuberculous cases as it is at present. The results are good in bronchitis, and the same may be said in regard to diseases of the kidney.

The patient should be much in the open air in good weather. Good diet should be supplied, constipation avoided and not much alcohol used. If possible, send the patient to a better climate, preferably a dry one, if the bronchitis be of the moist variety, and where the air is moist if the condition present is the opposite. During the summer the patient should spend the whole time in the open air and avoid cities as much as possible.

I do not enter into the enthusiasm of many of the profession in regard to the use of inhalers and nebulizers. When we see the altered mucous membranes at post-mortem examinations a reason is furnished for this view, and when we reflect that in addition to this there is present to greater or less extent atrophy of the tissue of the tubes, bronchiectasis and emphysema, we ask what good can be accomplished by the use of inhalations for a few minutes at intervals. In the first place, very little if any of the substance employed will get to the lesion. Secondly, even if it were possible to reach the places affected and smear them thoroughly with the material, little would be accomplished. We have no disposition to criticize the methods of any practitioner, but without this we should honestly ask ourselves what good can be done in this way, when not only the mucosa, but the whole thickness of the tubes is involved. The use of compressed air inhalations, or expiring into a vacuum, is based on much better grounds than the treatment first mentioned. This is especially true when emphysema is present. Alkaline mineral waters are often of service, especially in gouty subjects or where there is a tendency to eczema. Expectorants are sometimes useful in the dry forms of the affection. Terebine, apomorphine, etc., often improve the patient's condition for a time. In secondary forms of the disease treat the underlying condition.

Snake-Stones in Africa.—The snake-stones which are fairly common in South Africa are made of pumice They are described as white, porous stones, which, when applied to a snake bite, adhere until they have absorbed all the poison, when they are placed in milk, which in turn draws out the poison and renders them again fit for use. The natives firmly believe that they are bone from the head of a snake. Clay or any other absorbent is useful in snakebite if applied immediately —in default of something better.—*Popular Science.*

—Two of the Nobel Institute's scientific prizes, each worth 20,000 Danish kroner ($5,360), have been awarded, one to Dr. Finsen, the originator of light treatment for lupus, and the other to Dr. Pavliff, the Russian physiologist, for his researches in nutrition.

The Medical Times.

A MONTHLY JOURNAL

OF

Medicine, Surgery, and Collateral Sciences.

EDITORS:

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Communications should be addressed to the MEDICAL TIMES, 180 West Fifty-ninth Street, Central Park South.
Published on the first of each month.

Changes of standing advertisements and communications in regard to that department, should be addressed to the Advertising Manager, BENJ. LILLARD, 108 Fulton St., New York.

NEW YORK, OCTOBER, 1901.

"Help thou thy brother's boat across, and lo! thine own has reached the shore."

HINDOO PROVERB.

THE DEATH OF THE PRESIDENT.

THE recent tragedy in which the life of one of the noblest and purest men in the world, one of the most far-seeing statesmen of the age, notwithstanding the prompt action of surgeons, with all the resources which modern science could bring to bear upon the case, was cut off in the midst of a career of usefulness almost unparalleled in the history of the world, at a time when it seemed he was the most needed for the perfection of that great work which was advancing civilization and infusing a new and better life into the spirit of the age, brings out in strong relief points of marked interest and worthy of careful attention.

We notice, first, the quick decision of the surgeons and the promptness with which their work was executed. Twenty years ago, when it was considered death to cut into the abdomen, the bullet which passed through both walls of the stomach of President McKinley would have naturally excluded all hope of relief. The physicians and surgeons would have stood helpless, watching the ebbing of a life they had no power to save. The shot was fired at the President at 4:07 P. M. Reeling backward he was caught in strong arms, placed in an electric ambulance and moved over the smooth asphalt with scarcely a motion of the body, to the Emergency Hospital on the grounds, and at 4:30 lay on the table surrounded by some of the ablest surgeons of the world ready for an operation. Only a few moments' consultation was required. The line of duty was plain. First the anesthetic, then the examination and the operation. The wound in the chest was of minor importance, the bullet having struck the sternum, was deflected without entering the chest; but that in the abdomen had evidently penetrated deeper and was a source of danger. Without hesitation the knife followed the track of the bullet, bringing into view the front wall of the stomach, which was found to be perforated, and on lifting it from its bed a perforation was also seen in the posterior wall, the bullet having passed entirely through the stomach and buried itself in the muscles of the backs; both perforations were closed with silk sutures, the abdomen thoroughly cleansed with an antiseptic solution, and the outside cut closed and covered with antiseptic dressing —thanks to prompt and intelligent action and the advances of science in surgery and antiseptics within the past few years. The apparent success which followed the operation was so marked as to lead the surgeons in charge, and through them the nation, to believe that speedy convalescence would follow and in a few weeks at most the President be restored to active duty.

Notwithstanding convalescence seemed so far assured that the Vice-President and the Cabinet left for their homes, and the nation was breathing more freely with the conviction that the bullet of the assassin had failed in its deadly work there was no time when the progress of death, masked as it was, paused for a moment in its steady advance. We are assured by the attending surgeons and physicians, all men of great eminence in their profession, if the real condition of the patient had been fully known, nothing more could have been done to save his life. Death triumphed over the resources of science, and the utmost efforts of human skill. In every land throughout the civilized world, as the telegraph carried the news in quick succession, "The President is dying—The President is dead," there was a feeling of sadness and gloom such as was never before created by the death of any person, however illustrious.

The post-mortem examination revealed the true condition, the record of which is signed by fourteen physicians who were present. It said: "The bullet which struck over the breast bone did not pass through the skin, and did but little harm. The other ball passed through both walls of the stomach near its lower border. Both holes were found to be perfectly closed by the stitches, but the tissues around each hole had become gangrenous. After passing through the stomach, the bullet passed into the back wall of the abdomen, hitting and tearing the upper end of the kidney. This portion of the ball's track was also gangrenous, the gangrene involving the pancreas, which was slightly wounded. The bullet has not yet been found. There was no sign of peritonitis or disease of other organs. The heart wall was very thin. There was no evidence of any attempt to repair on the part of Nature, and death resulted from the gangrene, which affected the stomach around the bullet-wounds as well as the tissues around the further course of the bullet. Death was unavoidable by any surgical or medical treatment, and the direct result of the bullet wound." From the fact that gangrene very seldom follows the track of the bullet in gunshot wounds, the possible inference is, awaiting further investigation, that in this case the bullet itself may have

been poisoned. The optimistic feeling shown in some of the bulluetins, to many physicians who had no opportunity of noting minor symptoms, did not seem warranted by the high rate of the pulse, which was fully accounted for by the gangrene. It is possible this terrible calamity, which has so shocked the civilized world, may not be without beneficent results. The study by alienists and mental philosophers of this creature in the image of man, and the class to which he belongs, who perpetrated an act which it would seem could only be conceived and executed by the foulest spawn of hell, may throw some light upon an intellect in which there seems no touch of the human, whose mind is incapable of appreciating the least cause and effect of the lowest form of logic. This monster in human form, according to the most practical definition of insanity, is not insane. His mind is so unlike the general society of mankind he seems to belong to another race of beings, resembling the human only in physical characteristics, a race of degenerates from whom the only safety to the public is extermination.

The President was personally unknown to the assassin, standing in democratic simplicity, grasping the hand of every one passing before him irrespective of wealth or position. There could have been no private grudge, and no fancied wrong to avenge. He was simply a ruler, and, according to the code of the anarchists, mankind can best exist without law, every man being a law to himself. To bring about the desired end, the millenium of the anarchist, every national ruler is marked, as occasion offers, for death. It is a startling fact that within the last twenty years thirty chiefs of state, including the Empress of Austria, have fallen by the hand of the assassin—many of them through conspiracies directed by anarchists.

As the news of the attack upon the President reached us the first thought was a regret that the would-be murderer was not then and there lynched, trampled under foot and torn limb from limb. There are times when the crime is of so terrible a character that the prompt execution of justice without waiting the forms of law might be pardoned. In this case it was most fortunate that death was not permitted to obliterate those secrets which subsequent disclosures have brought to light, pointing to a conspiracy in which many noted anarchists were involved, the culprit being simply the tool chosen for the work.

In the history of the ages no act has ever created such an intense excitement or sent such a thrill of indignation through the civilized world as the murder of President McKinley. When such a man is marked for death by a law-defying class, the very act may lead to their own undoing by the enactment of laws, not only in this country but throughout the world which will place the anarchists on the criminal list as capable of any crime, and, when it is possible, expelled from the country and all avenues of business and civil life closed against them.

It will be remembered by the student of history that General William Henry Harrison, in 1841, was the first president to be called from his earthly work by the summons of death. As he lay in state in the White House, N. P. Willis, then in the height of his literary popularity, voiced the nation's sentiment in a poem which seems so applicable in the present instance as to be worthy of quotation.

THE DEATH OF HARRISON.

Death! Death in the White House! Ah, never before,
Trod his skeleton foot on the President's floor!
He is looked for in hovel, and dreaded in hall—
The king in his closet keeps hatchment and pall—
The youth in his birth-place, the old man at home,
Make clean from the door-stone the path to the tomb;
But the lord of this mansion was cradled not here—
In a churchyard far off stands his beckoning bier!
He is here as the wave-crest heaves flashing on high!
As the arrow is stopped by its prize in the sky—
The arrow to earth, and the foam to the shore—
Death finds them when swiftness and sparkle are o'er;
The President's death fills the climax of story—
He went with his old stride—from glory to glory!

Lay his sword on his breast! There's no spot on its blade,
In whose cankering breath his bright laurels will fade!
'Twas the first to lead on at humanity's call—
It was stayed with sweet mercy when "glory" was all!
As calm in the council, as gallant in war,
He fought for his country, and not its "hurrah"!
In the path of the hero with pity he trod—
Let him pass—with his sword—to the presence of God!

Follow now, as ye list! The first mourner to-day
Is the nation whose father is taken away!
Wife, children and neighbor, may moan at his knell—
He was "lover and friend" to his country, as well!
For the stars on our banner grow suddenly dim,
Let us weep, in our darkness—but weep not for him.
Not for him—who, departing, leaves millions in tears!
Not for him—who has died full of honor and years!
Not for him—who ascended fame's ladder so high
From the round at the top he has stepped to the sky!

TYPHOID-MALARIAL FEVER.

DURING the civil war while our troops were exposed in their long marches through pestilential swamps and in camps which of necessity were sometimes located in unhealthy positions where the drainage and drinking water were bad, the hospitals were filled with cases partaking of the nature of malaria and typhoid, the malarial symptoms being more marked at first, but as the disease progressed the typhoid conditions seemed to gain the ascendency. To this condition Dr. Woodward, of the army corps, gave the name of typho-malarial fever. Since that time the question has been discussed at considerable length, whether this is a specific disease brought into prominence by its great prevalence during and after the war, or of malaria co-

existing with typhoid, both conditions being present at the same time. It is evident that Dr. Woodward, in giving the name to the peculiar complication of malaria and typhoid, of typho-malarial fever, did not look upon it as a specific disease, but as a condition in which the symptoms of both diseases were clearly marked, requiring a treatment somewhat different from what would be indicated where they pointed to one disease alone, for, in an address before the Medical Congress in Philadelphia, in 1896, he stated "that malaria and typhoid fever occurring in the same individual at the same time should not be looked upon as a specific disease, but rather as a co-incident infection."

In an exhaustive article on typho-malarial fever, written in 1893, Dr. W. G. Thompson said that, "The name typho-malarial fever must not be held to imply a specific disease, but rather a combination or co-existence of two diseases—typhoid fever and malarial fever in the same person."

It is sometimes difficult in diagnosis to draw the line between typho-malarial fever and a mild form of typhoid, or a continued malarial fever, the appearance of rose spots in either form of the trouble being not always present, as well as the absence of other prominent symptoms, but there is no doubt that the two diseases may co-exist in the same person, the malarial type being more prominent at the commencement, but later on the typhoid dominating, rendering the disease more protracted and also more dangerous. This condition requires the most careful study to reach a correct diagnosis, as the complicated nature of the malady would naturally have an important bearing upon the treatment.

THE NON-IDENTITY OF HUMAN AND BOVINE TUBERCULOSIS.

HOWEVER dangerous the experiment, there is always some one ready to step into the breach and test the truth of a theory, even at danger to life. The discussion recently brought into prominence, the non-identity of human and bovine tuberculosis, is bearing fruit in the determination of the fact by a practical test. Mr. T. F. Monson, Colorado State Dairy Commissioner, from practical observation in the prosecution of his official work is so convinced that the two forms of tuberculosis are not identical that he has offered to submit himself to inoculation to bovine tuberculosis, in order to fully test the question. It has been claimed that well-attested cases of human tuberculosis, ending in death, have been contracted from bovine tuberculosis. Mr. Monson must be convinced of the falsity of this statement to be willing to submit to this conclusive test, the result of which will be looked for with great interest.

IS THERE ANYTHING NEW?

THE recent discovery of the communication of malaria through the bite of the mosquito seems to be a new edition of an old story published over half a century ago, recently reduced to a scientific certainty by Monson and Ross. The *British Medical Journal* gives the following extract from the "Journal" of the late Alexander Fisher, M.D., R.N.: "July 6, 1864, Ajaimbo, an anchorage 150 miles down the Gulf of California from Guaymas. Several of the boats communicated with the shore, their crews landing and some proceeding inland fifteen miles from the ship to the ranch. Although the appearance of the low, sandy, brushwood-covered shore inland from the beach showed a likely habitat for malaria, one circumstance was pointed out to me as indicative of the absence of malarious poison, which was. that there were no mosquitoes there, with an assurance that where they do not exist there is no chance for malaria." This is simply an illustration of how often the experiences of one century, long forgotten, are either re-discovered or brought to light from the study of ancient literature and subject to the crucible of scientific investigation are put to practical use.

DOES PROHIBITION PROHIBIT?

IN the war against intemperance from the use of alcoholic stimulants the fact has been overlooked to a certain extent that even the strongest advocates for the prohibition of alcohol as a drink are, almost without exception, in the habit of using some form of stimulant, which is often pushed to such an extent as to be prejudicial to health and even life itself. On the shelves of druggist and country stores are piled enormous quantities of patent medicines which contain more or less alcohol or some form of narcotic as an active principle. It would be difficult to find a house in which tea and coffee are not used in liberal quantities as a beverage at some of the daily meals. Every physician can point to poisoning by tea or coffee when the heart's action has been weakened, the throat inflamed and the digestive organs, to a certain extent, paralyzed.

There are times when every one has a craving for some form of stimulant, and the question is worthy of consideration whether strict prohibition of every form of alcohol, except for mechanical uses and medicine, does not drive very many to the use of drugs which may be equally abused, and the formation of habits prejudicial to life and health.

An article in the recent number of the *Medico-Legal Journal*, by Dr. A. P. Grinnell, of Burlington, Vermont, presents a startling picture of the use of stimulants in that State alone. The sales of opium in 150 regular pharmacies and 160 general stores amounted in one year to 3,300,000 doses; this did not include the enormous amount dispensed in patent medicines and in the prescriptions of physicians. This inquiry was restricted to the common narcotics, such as morphine, Dover's powders, paregoric, opium, laudanum, chloral, cocaine and cannabis indica. The population of the State is about 320,000, with no large cities. In some of the larger towns the monthly sales of opium amounted to from three to five pounds, of morphine from one to three pounds, paregoric and laudanum from one to six gal-

lons, chloral from one to thirteen pounds, and Indian hemp from one to thirteen ounces.

Quinine in small quantities is undoubtedly a stimulant. The author states that a two-grain pill will flush the face of one not accustomed to it as much as a drink of whisky, and that the amount sold without prescriptions would be two grains daily to each man and woman in the State.

Dr. Grinnell justly says: "Sooner or later the reformers of the world have got to divest some of their feverish antipathy to alcoholic stimulants and consider calmly and intelligently the drug evil. The deleterious influence on the individual of all forms of drug addiction, and the consequent effect on society and all relations of mankind, make its consideration in its socialogical and criminal aspects of paramount importance. The courts have never given much judiciary importance to drug habits, but widespread development of drug addiction must surely, sooner or later, bring the matter into greater legal prominence. No law has yet been enacted which meets the requirements or is satisfactory to the victim of the drug habit, to the reformer, or to the reformed."

It would be well if the profession would take seriously to heart that the drug habit is not infrequently due to a lack of caution in continuing too long, the drugs perhaps carelessly prescribed, and afterwards left to personal judgment.

SYSTEMATIZE EXERCISE FOR THE TREATMEMT OF THE FEEBLE-MINDED.

IN taking up the subject of the development of children who are below par mentally, there is no question but that the physical condition of the child has been deemed of too little importance, and his physical development has been more or less neglected until recent years by his caretakers. In the use of the term "feeble-minded," the writer means to include not merely persons who are regarded as imbeciles, but also children who are lacking in some great sense, such as "eye-sight" or "ear sight." He was struck some years ago, on visiting a large institution for the blind, how deplorable the physical condition of the children seemed to be and on inquiry he found that as yet but little was being done for them in these institutions along this line. In this case it was not due to the lack of thought or ability of the physicians visiting the institution or of the instructors in charge, but to the prejudice of the managers, who regarded the introduction of a gymnasium and systematized exercise for the blind as a "fad." Of course, in the blind, many of the causes which produce this condition produce also ill health, yet, undoubtedly, in many cases, the mere fact of being blind, of being unable to work to the fullest extent, or play to the fullest extent, has a depressing influence upon the physical condition, and therefore probably in all institutions for the blind the physical condition of the students is very far below the average.

This has been recognized on all sides now by managers of these institutions, and the results already obtained warrant the further extension of gymnastic methods among this class of people.

In the feeble-minded themselves there is no doubt that the use of specially directed gymnastic exercises will help this class of patients. Imbeciles can be made, without much effort, to imitate proper calisthenic movements without trouble, and the results will speedily appear. Drs. Taylor and Pearce have recently pointed out that organic vascular heart disease is a very large etiological factor in the production of imbecility, and they believe that many of the higher grade cases can be bettered by attention being paid to therapeusis of the cardio-vascular disorders of imbeciles. The use of carefully watched exercise could be included in these measures, and there is no doubt but that much can be done in the future for these unfortunate cases which the laity and the majority of physicians are at present willing should remain as they are.

EUROPEAN AUTOMOBILE ACCIDENTS.

NEW factors are continually arising in our civilization with which the physician must come in contact. A new group of accidents due to electricity and its use has developed in the past twenty years. Now comes the problem of the use or possibly the abuse of the automobile. As yet the use of exaggerated speed, inexperienced drivers and carelessness have not been experienced in this country, excepting possibly in such isolated spots as Newport. But the sport of automobile traveling and racing is in its infancy and may soon develop business for the surgeon.

The United States consular report for September, 1901, under the title of "Automobiles in Europe," gives some interesting information. It says that the manufacturers, in their zeal for speed, seem to have forgotten the conditions which the automobile supplants. It is not to replace the locomotive, but the horse. Yet races at high rates of speed are taking place on ordinary thoroughfares everywhere in Europe, and the demand for the automobile has produced another source of danger, "the cheap automobile." As soon as a high-priced article wins public favor, the natural laws of competition begin to lower the price. There are only two ways of reducing the price of automobiles—by manufacturing in large quantities with special machinery and, secondly, to simplify the mechanism. Many accidents are occurring all over Europe. In France a maximum speed of 18.6 miles is allowed an hour in the open country, but the machines do far better than that. The accident insurance companies are beginning to take notice of these accidents and arranging extra premiums for such risks. Undoubtedly in five years' time, with the present growth of the use of the automobile in mind, legislative action will govern these matters. In the meantime it is the duty of every physician to teach the public the danger they run, both in being in the automobile and in being in front of it.

CEDRON IN YELLOW FEVER.

THE Marine Hospital Bureau has issued a bulletin as to the use of cedron seed in yellow fever, as practised by Dr. S. H. Hodgson, of the Navy.

Dr. Hodgson says that a tincture or fluid extract of the seed of cedron is made by many persons in Central and South America and given as a specific antidote to persons suffering from stings or bites of insects or snakes. While at Jiminez, Costa Rica, he attended nine laborers who had yellow fever. He gave them a tincture of the cedron seed. This tincture he made himself. It was of uncertain strength. He employed hypodermic injections of about twenty minims three times a day. All the patients recovered. The drug promptly relieved the headaches and stopped the nausea. He firmly believes that this remedy will cure yellow fever.

AMERICANS ARE GROWING LONGER LIVED.

THE recent publication by the chief statistician of the United States census for 1900, of the vital statistics of the country, gives an opportunity for some interesting comparisons and deductions. In the registration areas so far made public there has been a decrease in the death-rate for the country in the past ten years of 1.8 per one thousand of population, or a decrease of nearly 10 per cent.

When it comes to the study of great centers of population some interesting facts are shown. Curiously enough, among the large cities, Chicago shows the smallest death-rate per one thousand of the population, *viz.:* 16.2 for 1900, as against 19.1 for 1890; St. Louis, its old-time rival, stands a good second, with 17.9 against 17.4 in 1890, a slight increase in rate during the ten years. Boston comes third, with a distinctly higher rate, that of 20.1, although it is reduced from 23.4 in 1890. New York City comes a close fourth, with 20.4 as against 25.3, showing a great decrease in the ten years, probably due to the efforts of such practical reformers as Riis. Baltimore comes fifth, with 21. as against 22.9, while Philadelphia comes next, with 21.2 as against 21.3 in 1890. Philadelphia is a remarkably healthy city outside of its death-rate for typhoid fever, due to its water supply, a defect which will be removed within the coming year through the introduction of an elaborate system of filtration.

The smaller cities show a distinctly better death-rate, beginning with Buffalo, the exposition with a death-rate of 14.8 as against 18.4 a decade ago. Milwaukee stands second, with 15.9 as against 18.8; Detroit comes third, with 17.1 as against 18.7, but it is tided with Cleveland's, whose 1890 rate was 20.2. Cincinnati comes next, with 19.1 as against 21., and San Francisco last among the cities of the second class, with 20.5 as against 22.5.

Some cities show a decided increase in the death-rate, notably New Orleans, which has the enormous rate of 28.9, while it was in 1890, being 26.3. All the Southern cities for 1900 show high rates of mortality: Mobile 25.9, San Antonio 23.6, Atlanta 26.6, while Savannah shows the rate of 34.3, and Charleston the terrific mortality of 37.5, or more than twice other cities of the same size.

These figures show definitely that more care is shown in sanitation, in the science of living, the introduction of new methods of life, of advances in surgery, etc.

There is one thought in regard to the Western cities with low mortalities compared to Eastern towns with higher which may cause some of these figures to be misleading. There has been a great rush for twenty years of younger people to the West; this has a double effect; it tends to raise the average mortality among the older people left at home, while it lowers that of the regions into which they move.

Still, the figures are encouraging and are a definite refutation to the croakers who feel that the American is growing shorter-lived.

BIBLIOGRAPHICAL.

THE READY REFERENCE HANDBOOK OF DISEASES OF THE SKIN. By George Thomas Jackson, M.D. (Col.), Chief of Clinic and Instructor in Dermatology, College of Physicians and Surgeons, New York; Consulting Dermatologist to the Presbyterian Hospital, New York, and to the New York Infirmary for Women and Children; Member of the American Dermatological Association and of the New York Dermatological Society. With 80 illustrations and 3 plates. Fourth Edition, thoroughly revised. Lea Brothers & Co., New York and Philadelphia. 1901, pp. 642, octavo.

The author of this practical book has reason to feel proud of the promptness with which his editions are called for. He has spared no pains to keep his work abreast the times, and the present revision is fully to date. Many new sections have been added, while the pruning has not allowed the bulk to be increased. Five new and valuable illustrations have been added. The student and the general practitioner will no doubt continue to show their appreciation of this useful work.

HISTORY OF MEDICINE. A brief outline of medical history and sects of physicians, from the earliest historic period; with an extended account of the new schools of the healing art in the nineteenth century, and especially a history of the American eclectic practice of medicine, never before published. By Alexander Wilder, M.D. New Sharon (Maine) New England Eclectic Pub. Co., 1901, pp. 946, 12mo.

This book has been prepared in compliance with a request of the National Eclectic Medical Association, and is what its title indicates. We should say that from the eclectic standpoint the work had been faithfully done by a competent hand.

SYPHILIS; ITS DIAGNOSIS AND TREATMENT. By William S. Gottheil, M.D., Professor of Dermatology and Syphilogy, New York School of Clinical Medicine; Dermatologist to the Lebanon and Beth-Israel Hospitals, the West Side German Dispensary, etc. Profusely illustrated. Pages 216. Price $1.00 net. G. P. Engelhard & Co., Chicago, 1901.

A concise resumé of the latest conclusions as to the subject is all this little book claims, and it has been done in the interest of the general practitioner.

NANSEN'S IMPORTANT ARTICLE. In an early issue of *The Saturday Evening Post,* Dr. Nansen, the eminent Arctic explorer, will describe the various pole-seeking expeditions of the year. The importance of this paper lies in the author's comments, and his predictions as to the success of the different parties.

International Clinics, Vol. II., of the eleventh series of this valuable quarterly in book form of 300 pages, published by the J. P. B. Lippincott Co., discusses in lectures and especially prepared articles, illustrated with full-page plates, and a large number of separate figures, some of the most interesting subjects in the various departments of Therapeutics, Medicine and Surgery, by men who have made the study of these specialities the work of a lifetime. Each article will be found full of ripe thought and practical experience.

RETROSPECTIVE THERAPEUTICS.

The Physiological Care of Colds.—Chas. H. Shepard, M.D., Superintendent of the Brooklyn Heights Sanitarium, discusses this question in the *Journal of the American Medical Association,* April, 1901. He says:

1. Exposure is less responsible for colds than inactivity of excretory organs, the mucous membrane of the head discharging the impurities of the system, instead of the proper eliminating organs.

2. Lowered nervous tone weakens vital resistance to morbific changes.

3. Highly seasoned foods and frequent eating occasion congestion of the mucous membranes. A starving man cannot take cold.

As a form of radical treatment, Dr. Shepard considers the Turkish bath a *sine qua non.* The avoidance of alcoholic stimulants, greatly diminished diet, quantities of water internally, with thorough evacuation of the bowel, will, in the opinion of the doctor, serve to break up most colds. Quinine should be avoided.

The Bacterial Treatment of Constipation.—Some recent researches of Roos, of Freiburg, into the bacterial treatment of constipation deserve careful attention, says the *Med. Press and Circular.* He found that cultures of bacillus coli communis, derived from persons whose bowels were active, effected a cure when administered to persons suffering from constipation. His experiments were carried out upon himself and upon some half dozen medical friends. Accepting the facts as stated, it follows that there is a difference in the activity and vital reaction of various members of the bacillus coli group. That many varieties exist in that particular family has long been an established fact. In connection with this subject it may be pointed out that some observers have described a form of diarrhea associated with bacillus coli. Again, the origin of more or less summer diarrhea has been attributed to the pollution of town dust by the bowel bacteria of the horse. It would be not a little interesting to learn whether Roos has conducted his researches into the relation of the equine bacillus coli to the constipation of man.

In any case he has opened up a most interesting and suggestive line of observation, and one that promises to yield practical results in the direction of treatment. The subject of the bacteriology of the intestine, both in health and in disease, is enormously wide and important, and offers a fine field of investigation to the rising generation of bacteriologists.

To Prevent Intoxication from Ext. Filicis Maris Ethereum.—Professor Grawitz has observed a number of cases of icterus, gastro-intestinal catarrh, renal and liver troubles consecutive to the use of this remedy for tapeworm, and in a communication to the *Muench. Med. Woch.,* of September 18, 1900, warns against use by anemic persons, or when any special organ is affected, as predisposing to intoxication. The twenty-gram doses of former days have been abandoned and eight to ten grams for adults and half this for children over six years is now the usual dose. It should never be administered with oil as a vehicle or purgative, as the oil favors its absorption. Grawitz also advises against "preparing the patient" by reducing the amount of food and taking the extract on an empty stomach. The morning of the cure the patient takes Carlsbad or sulphate of magnesia, and, after it has operated, the remedy is taken with coffee. He has had a hundred consecutive cases without a single accident, and negative results have been extremely rare.

Salt Solutions in Hemorrhage and Collapse.—The value of rectal injection of hot saline solutions in overcoming the collapse due to excessive hemorrhage or purgation is warmly urged by Dr. T. B. Greenley (*J. A. M. A.,* xxxvi., No. 6; *Ga. Jour. of Med. and Surgery*). Half a gallon of the solution, containing 1 oz. of table salt to the gallon of water, at 110°-115° F., may be injected into the bowel and retained by pressure on the anus. The fluid is absorbed very rapidly in the sigmoid flexure and colon. Pulse and color prompty improve and the patient rallies. The rectal method has several advantages over the use of saline solutions by hypodermaclysis or transfusion, it taking less time, being less painful and less dangerous. Another advantage is that sterilization of instruments is not necessary. All we require is a fountain syringe, or in its absence a common hand syringe will answer.

Three cases are given in illustration.

RETROSPECTIVE DIETETICS.

The Feeding of Consumptives.—Next to a life in the open air, or, perhaps, even more than that, the question of food is of paramount importance in the prevention of consumption, as well as in the treatment, says the *Medical Summary.* One of the ways an open-air life is curative, indeed, is that it increases the appetite.

Persons with consumption generally eat too little, even less than those in health, whereas they should eat vastly more than the well. Nature seems to be aware of this, for usually a consumptive patient can assimilate a much larger quantity of food than a healthy person.

The food should be taken in fairly large quantities and at frequent intervals. Not more than three, or at most four, hours should pass without the eating of something, if only a milk biscuit, a sandwich, or a banana. A pitcher containing two glassfuls of milk should stand on a table near the bed, so that a glass may be taken in the night if the patient wakes, and again before dressing in the morning.

As much milk as possible should also be taken at intervals throughout the day. This, of course, provided the patient is able to drink milk; most people are, even when they think they are not; yet there are some to whom milk is repulsive, or who really cannot digest it. Such will have to substitute broths,

jellies and the like for the milk. Often ice cream can be taken when milk cannot.

The food taken at mealtime should be of the most nourishing character, meat, eggs, fish, peas and beans, varied with salads dressed with oil, but no pastry. The tea and coffee should be chiefly cream, and the bread and butter should be chiefly butter, and the salad dressing be chiefly oil. Every particle of fat taken is so much pure gain, and even when cod-liver oil is being used as a medicine, as much butter and cream as possible should be taken as well.

Plenty of water should be drunk—four or five glasses a day at least, unless a great abundance of milk is used.

Raw Meat a Specific for Tuberculosis.—According to an article in the *Medical Review of Reviews* for August, recent investigations by MM. Richet and Hericourt have thrown an entirely new light on the raw-meat treatment of tuberculosis. In a communication to the *Académie des Sciences* (26th February, 1900) these authorities proved that cooked meat does not possess the specific properties of raw meat or prevent the development of disease—a position hitherto unsupported by scientific evidence. The most original part, however, of their conclusions is that the therapeutic activity of raw meat is solely concentrated in the portion soluble in water, which part is contained in the muscular plasma, and that raw meat does not act as a super-alimentary agent, but somewhat as a lymph vaccine, having a distinct and specific action against tuberculosis. Dogs rendered tuberculous by injection into the saphena vein of the tibia, of from half to one cubic centimeter per kilo of the animal's weight of cultures of human tuberculosis, invariably perished unless submitted to the raw meat treatment within from 50 to 60 days. On the other hand, if, after inoculation, these animals are exclusively fed on raw meat, they live much longer (from 10 to 12 months, often more), and some appear to be quite cured. The beneficial action of the raw meat is shown, even if the animal is fed on it long after the infection has commenced, and even when the state of cachexy is extreme, the appetite returns, while strength and weight increase rapidly. Dogs which are fed on raw meat before inoculation have great resisting power, and are only inoculated after repeated and persistent attempts to infect them.

The authors of this discovery, therefore, have applied to this form of opotherapy the term Zomotherapy (from Zomos, meat juice).

The muscular plasma, called zomol, is filtered rapidly as soon as expressed from the meat, and evaporated at a low temperature until converted into small, dry scale.

Dissolved in water, zomol partakes of all the properties of fresh muscular plasma, and replaces it in all cases with advantage. It can also be administered in the dry, liquid or semi-liquid state with food, and is quite palatable.

Zomol is especially indicated for rectal administration.

The daily dose should be at least 10 grams (one-third of an ounce), about two or three teaspoonfuls, which is equivalent to the soluble constituents of 200 grams of fresh meat.

A most important memoir was presented by Dr. Hericourt to the Academy of Medicine in June, 1901, dealing very specifically with thirty-five cases of consumption, and saying that the whole thirty-five have been cured by the zomol, or serum of raw-meat treatment.

The cases are given with considerable detail, and Hericourt's standing, we are told, is so high that his claims are accepted without question.

The Alimentation of the Newly-Born.—According to the *Lyon Medical* of April 14, M. Budin says that after birth the infant takes little milk. Up to the tenth day the quantity augments, and then remains stationary for a while. He has found the following mathematical formula: The necessary quantity for twenty-four hours is arrived at by multiplying by two the figure of the child's weight and suppressing AO. Thus: A child of 2,500 grams will require $250\times2=500$ grams; one of 3,700 grams, $370\times2=740$ grams, and so on.

Viscogen for Adulterating Milk.—Viscogen is the latest milk adulterant discovered by the inspectors of the State Dairy and Food Department, Minnesota. For some time the department kept getting samples of milk apparently far above the legal standard, which, on being tested, were found to be far below. The cause was a mystery until, by a shrewd piece of detective work, the reason was discovered and a sample of viscogen was obtained.

The stuff is a syrup composed of sugar, lime and water, about the color of water, and is used chiefly to make the milk appear richer than it really is. When viscogen is placed in milk or cream the lactic acid turns the lime in the fluid into a thick white substance, which, assimilating with the milk, gives it an appearance and a taste of great richness. It is possible through its use to palm off upon customers milk and cream far below standard.

While viscogen is not injurious to health, its use is fraudulent and will be stopped by the Dairy and Food Department.

Convalescence.—Professor Roemele says that it is not generally realized by the practitioner, but it is nevertheless a truth, that a patient who has just recovered from acute disease, is still a patient who should receive systematic treatment. To illustrate the idea, I have in mind a patient who has gotten over typhoid fever. This patient is emaciated, weak and very anemic and to allow him to go along without appropriate treatment he will have a prolonged convalescence and may fall the victim of some acute disease—his weakness rendering his powers of resistance unable to withstand any disease influence. In all cases of convalescence, as in this case, I give my patient eucasin. It is 95 per cent. albumen, and is one of the most nourishing foods which can be given. It is readily appropriated by the system, and in run-down conditions and whenever the demand for pure food exists it is indicated. In emaciated children, whose tissues have been wasted by enterocolitis, eucasin often produces the most speedy results; the little patient in a very short time will begin to gain in flesh and attain his former standard of weight. As a food in acute and chronic diseases eucasin will be found the article we have sought, because it is easily and quickly appropriated by the system.

—Heinrich Stern (*Am. Med.*) has investigated the question as to whether the gouty and kindred phenomena may disappear after vaccination. He reports two experimental inoculations. The gouty pains disappeared in both instances. And he mentions that the same may stand as the foundation of many affections which are clinically regarded as gout, rheumatism and neuralgia. Since vaccine lymph hardly possesses solvent or eliminating properties, he regards the reaction as secondary or indirect.

HOSPITAL REPORTS.

BULLET-WOUND WITH FRACTURE—COMPOUND COMMINUTED FRACTURE COMPLICATED WITH DISLOCATION OF THE RADIUS—ULCER OF THE LEG.

BY ALEXANDER B. JOHNSON, M.D.,

Assistant Attending Surgeon, Roosevelt Hospital, New York.

WE will now begin the further consideration of fractures from a practical point of view. I shall be obliged to show the cases as they present themselves in the hospital, or as they occur in the accident-room of the out-patient department. Of course, in so doing, it is impossible to follow any definite plan, so I shall show first fractures of the upper extremity, and then something of a different character.

Case I. Bullet Wound, with Fracture.—In this fracture a very valuable lesson is to be drawn. This man has a plaster dressing on his arm. I think that many of you have noticed the position the arm has been placed in, and that it is somewhat unusual. Notice the hand is not placed in the position ordinarily seen in fracture of the forearm—midway between pronation and supination—but is placed in a strongly supinated position. There is a reason for that. The history of the case is briefly this: On the 19th of last month this man was shot with a revolver, caliber 38. He apparently was standing with the arm across the body and with the hand in position midway between supination and pronation, with the elbow slightly flexed. The bullet entered the forearm at the junction of the middle and upper thirds, directed backwards towards the inner or ulnar side. There was but one opening, that of entrance. The injury was a very painful one. Immediately he lost the power of supination and pronation, and the arm steadily grew greatly swollen. The fact that he lost the power of pronation and supination leads one to expect to find an injury to the bone, and the swelling was a sign that bleeding had taken place in the tissues. It was not possible to make a positive diagnosis by manipulation on account of the excessive pain produced; it was not deemed necessary to do this then. The wound was cleaned externally, the skin was disinfected, etc. Now, the lesson to be learned is this: that that kind of wounds, even though they may be severe in character and even though they may involve the bone and cause fracture, do not necessarily run a septic course; but, on the contrary, they may run a perfectly aseptic course, and the bullet may remain in the tissues. That is a statement well enough known. Nothing has been done to this man's arm in the way of searching for and removing the bullet—really nothing has been done besides disinfecting the skin. The X-ray is the only certain and positive means of recognizing the character of the fracture; it also may enable us to learn whether or not the fracture has been properly treated. Accordingly, I had the man visit me at my office and an X-ray was taken, which I now pass for your inspection. You are looking at it from the side, and the position of the bones of the forearm show the hand is strongly supinated and you are looking right down upon the ulna; the injury is of the right forearm. You can see in this X-ray that the radius here at the junction of the upper with the middle third is fractured, and also that it is comminuted, *i.e.*, the bone is broken into several fragments. Apparently resting upon the ulna is seen an irregular mass, which shows in the plate as a white spot; it is shapeless, having no form. That is the bullet, which was deformed by the impact against the bone. It apparently lies on the inner side of the ulna. The radius itself is distinctly comminuted. Whether the ulna was merely grooved or channeled by the bullet, it is impossible to say. I think the natural impulse in almost everybody, when a patient with such an injury comes to them, would be to go down and remove the bullet. In this patient it was not done, nor was it necessary. Probably, at some future time, I will remove the bullet, but not at the present time, for the reason that it is not causing any disturbance. Now, from the point of view of treatment of fractures there is a great deal of importance attached to it. Why? Because, if you look at the bones in this skeleton and remember something about the function of the elbow joint and the various muscles attached to the bones of the forearm, you will know that in pronation and supination it is the radius that rotates around the ulna. One of the muscles which supinates is the biceps; here, supination occurs because of the fact the tendon of the biceps is inserted into the posterior portion of the tuberosity of the radius. Therefore, the first action of the biceps is to supinate the forearm. You then can readily understand that if the radius is broken somewhere below the attachment of the biceps there is the tendency for the upper fragment to be strongly supinated by this muscle. On the other hand, the tendency of the lower fragment is to remain in any position it is placed; therefore, to have the lower fragment in proper relation to the upper fragment, the hand should be strongly supinated. But, in this patient, the fracture has occurred above the insertion of the *Pronator Radii Teres*, and therefore it is not necessary to place the hand in strong supination. Suppose, on the other hand, it is a fracture which is dressed in a position for comfort and convenience, it should be placed in a position midway between pronation and supination; the consequence would be that the upper fragment would be supinated and the lower fragment would be in the mid position. If the two bones united supination would be lost and the patient's hand would be in a position of pronation, but he could not supinate any more. If the diagnosis of fracture of the radius is made between the attachment of the Pronator radii Teres and the Supinator Brevis, or below the attachment of the biceps the patient's hand must be placed in strong supination. That is a practical and a good point. It is quite true that the majority of fractures occurs near the middle of the bone, and the rule to place the hand in a position midway between supination and pronation is a good one, because in that position the bones are separated to the greatest possible extent, and there is no tedency for the radius to unite to the ulna. In this patient the bullet wound is pracically closed. The question may be asked, What kind of a result will we expect to get in this case? I think it will be a good one. Of course, it is impossible to say what the exact outcome will be, but I believe that it is perfectly possible for this man to get well with a useful forearm. It has been put up in plaster of Paris splint, extending from the middle of the fingers to a point above the elbow joint. In treating joints in general it is a good rule to include in your dressing the joint above as well as the joint below the fracture.

Looked at from the point of view of a wounded individual, there is something I wish to call your attention to; namely, what would ordinarily be an aseptic temperature curve in any wound of consequence, especially in wounds accompanied with some laceration of tissues and some effusion of blood imbedded in the tissues and

* Delivered at Roosevelt Hospital.

where the body has to take care of the effused blood and contused tissues by absorbtion, we almost always have a rise of temperature. Remember that a rise in temperature following the day after an injury lasting twnety-four hours or longer, and then gradually going down to normal and staying there, is the typical aseptic temperature following any operation where there is any contused tissues and effused blood. We are safe in assuming that when repair is taking place, the blood clots removed, etc., the system in general must take up the dead material and get rid of it in some way or another, and here the temperature of the body rises. One of the peculiarities of an aseptic fever is that the subjective sensations of the patient, the general condition of the patient as to appetite, headache, general malaise, etc., is different from those that occur in a septic wound, the fever resulting from the obsorbtion of truly septic products. A pus finger, an abscess of the finger, an infected finger usually makes the patient feel distinctly ill. An individual, however, who has had a resection of the knee-joint, with the wound made perfectly clean and aseptic, may have for several hours or days a temperature of 101°, 101.5° or 102°, a somewhat rapid pulse, and yet not feel ill at all, so long as the wound is aseptic. Therefore, the temperature chart will enable us to determine whether or not the individual is running a normal aseptic course. The more you study these charts the more familiar will you become with the different types of surgical diseases.

Case II. Compound Comminuted Fracture Complicated with Dislocation of the Radius.—This old man was knocked down by a cable-car and has received a remarkable injury. This, gentlemen, is also a fracture and it is a fracture in pretty much the same region as in the previous one, but is a much more serious one—it is so serious that the individual is fortunate if we can preserve his arm. The injury was of a complicated character. In the first place, there is, or was, a wound, or several wounds of the skin communicating with the broken bones; it is, therefore, a compound comminuted fracture. There is also a dislocation of the radius. Besides a fracture of the radius there is also a fracture of the ulna. There is, also, a great amount of contusion and laceration of the soft parts. When the gentleman was admitted to the hospital, and the very serious nature of the injury appreciated, it became at once evident that some operation must be done to dispose of the effused blood-clot in order to properly reduce the broken fragments. As could be readily felt, one of the bones was seriously comminuted, broken into small pieces; this was known by the crackling and grating determined by manipulation. Therefore, it was necessary to see if some pieces required removal. It was found that the upper end of the radius did not move when the hand was rotated; this all of you can determine. This injury exists in the neighborhood of the joint. The upper end of the radius was dislocated from the humerus and it was found that it was necessary to remove it. As further exploration it was found that the upper third of the radius was extensively mashed and comminuted, and it was believed that it too had to be removed. The fracture of the ulna apparently was a simple affair. Under the circumstances we did the best that could be done. From a theoretical consideration of the injury we will now proceed to dress it. In doing so we not only try to illustrate the treatment of the fracture itself, but also the treatment of the wound. The temperature chart of the individual does not depart much from the normal course. This injury was a great deal more extensive than in the last case shown and, naturally, the temperature has not shown a tendency to come to and remain normal. It may be that for some time this man's temperature has been above normal.

Before dressing this case you will notice that I am putting on rubber gloves; there are two reasons for doing so. In operating, we do it for one reason—to protect the patient from sepsis. In dressing cases we put on rubber gloves for our own protection. It is possible for surgeons, although engaged in the treatment of various wounds, to keep his hands always clean by wearing rubber gloves. Some surgeons believe that the delicate sense of touch is handicapped by wearing rubber gloves; they wear gloves in dressing cases, but operate with naked hands; and they get very good results, too. Personally, I prefer to wear rubber gloves in all operations. One can never be satisfied as to the sterile condition of the hands, but they can always be satisfied as to the sterile condition of the gloves. æ

This arm was not done up in plaster, but in hard rubber; this of great use, and is very much better than plaster-of-Paris, which does not permit being changed in shape. Gutta-percha, or hard rubber, by wetting in hot water, can be made to fit any limb. A splint of shellac, cloth, or other material, may not fit every one. This can be bent into any shape. As the dressing is removed please notice that the discharge is abundant; that does not necessarily imply a septic condition of the wound, but it shows you that the wound is extensive and that there is a considerable amount of exudation of one kind or another taking place. As I begin to uncover the wound you will notice that the discharge is not what one would speak of as a septic discharge; apparently there is no severe degree of infection in the tissues. As you look at the limb you will see that even along the edges of this extensive wound the skin is not red. The skin looks almost as normal as the skin above; it is not the kind of redness that accompanies acute infection. Here is another lesion. As I pull out a piece of gauze at this point you may see where the skin was undermined. The injury was of such a character that the skin almost almost dropped off; the use of the forceps gives no evidence of pain. In other words, the nerve supply to the part was seriously affected. Notice that the limb is crooked, that is, there is deformity, which is one of fracture. Here and there we notice where the skin is discolored, in some places being blue, in other black. In the opening of the wound at this point you will notice a white, glistening body; it is the lower end of the humerus. Remember that in addition to the fracture there is a dislocation of the radius. Through this opening a part of the radius stuck out. As a result you will notice the severe contusion of the soft parts; here is an area as large as a silver half dollar, where the skin is absolutely black; that skin is dead and it will have to come away. Inasmuch as it is doing no good and inasmuch as it will not hurt to remove it, the sooner it is removed the sooner will the underlying skin and parts beneath heal; and I think I will take it away now. This little operation will give the patient no pain, because the parts are so severely contused and the nerve supply impaired. This condition well illustrates the condition which we have known as dry gangrene. Here is a piece of skin and the parts beneath it are grayish-black. It has a sweet smell. It is an aseptic death or necrosis. You will be informed regarding cases in which gangrene of a different type occurs. Septic gangrene is attended by the growth of saprophytic bacteria and bacteria of putrefaction; in this instance there is no such condition. At the border of the tissue, where the gangrenous mass was removed, it is

absolutely normal, and there is no tendency for the inflammation to spread. In gangrene of moist type there are two processes going on side by side—the tissues are decomposing through the agency of the saprophyctic bacteria, and the tissues are in a condition of acute suppurative change. That does not exist in this instance. If we can keep this in an aseptic condition it is highly probable that the result will be much better than you might suppose. As you see, the ulna, upon which I have my hand, is still in position. This is the capitellum, with its white round cartilaginous surface. As to the fracture of the ulna, which I readily feel here, I can show you what is known by mobility; that is one of the positive signs of fracture taken in conjunction with the sign of deformity. I do not wish to get crepitation because the ulna has been sutured and so united. The radius, of course, must be allowed to take care of itself. Now, the indications in dressing such a wound is to do that which will prevent septic infection. In this case there is a certain amount of necrotic tissue on the surface of the wound, which should be disinfected with a solution of peroxide of hydrogen. In the hospital I use it in half strength, but in my office practice I use it in full strength. The hand shows ecchymosis, which is also one of the signs of fracture. I pinch the old man's skin over this area; if the discoloration was due to gangrene he would not feel it, for one of the first symptoms of gangrene is loss of sensibility. In this man the sensation remains. Of course, it might be lost through interference with the nerve supply. Another reason why we know it is not gangrene is this: A gangrene that involves that part below the fracture must almost invariably be attended with one of two things—destruction of blood-vessels and loss of nutrition, or else an infection of the wound accompanied by much swelling. This man's hand is discolored but not swollen. If contused it will be discolored. If you look at the borders there is no sign of inflammation. If I place my finger down in the wound upon the radius I can feel the pulsations of the radial artery. So this is an ecchymosis low down in a position where gravity would carry it. We will, then, clean the sloughing wound with a solution of peroxide of hydrogen. This is a comparatively non-irritating antiseptic; it is a general antiseptic, and it is something more than that; it has the power of dissolving this sloughing mass of tisue, where the nutrition is so impaired. As most of you present may know it has no effect upon living tissue, if healthy. These wounds, treated by a solution of peroxide of hydrogen, tends to clean up in a most remarkable way; it is a particularly valuable application to septic cavities. Please notice that as I rub the wound with this solution the sloughing mass is being softened—it is almost ready to come away. In cases of septic wounds it is necessary that the solution should be applied for a long period of time; in this case it is not necessary. I will now place a clean towel beneath the individual and illustrate the technique of dressing this wound. It is always a good plan after removing the dressings to remove the accumulated discharges. It is wise, generally speaking, for you to have a dry wound before applying dressings. The dry condition of the parts does not favor the growth of bacteria, whereas a moist dressing does. Another useful application, although not used now so much as formerly, is the packing of iodoform gauze. One used to read a great deal about the use of iodoform; many years ago iodoform was considered the only antiseptic of value; nobody would ever think of doing a surgical operation without using iodoform. There were not many laparotomies done where the surgeon did not rub in iodoform powder; at the present time we do not do so. Yet, clinically, iodoform gauze remains a valuable application in certain types of wounds. Iodoform, in many instances, is distinctly of value in cleaning up a contused and more or less infected surface. There can be no question but that, to a great extent, it diminishes the absorbtion of aseptic products from inflammation, and for that reason we still use it. In this old man I use it because the deeper parts may be kept in a fairly aseptic condition. There is an opening left for the proper exit of the discharges. On account of the excessive discharge the gauze will be shaken out, or crumpled, and so a large amount of heavy dressings is not necessary. Over this loose mass I will place some more or less thick pads; they give the parts better support and make it easier to apply the bandage. In such cases as this it is a difficult matter to state just what the outcome will be. I am inclined to believe that, on account of the grave nature of the injury, the loss of substance, and the necessary loss of function, the most favorable result that can be obtained is anchylosis of the elbow joint, in a position midway between pronation and supination, and slightly flexed. It is possible that the man might have some mobility. In applying the splint one should bear in mind that too much pressure should not be used; therefore, a certain amount of cotton is placed between the splint and the dressings. There is an interesting fact connected with this case, and it fully illustrates it, that wounds which are not infected are not painful. One would suppose that, from the grave nature of the injury, he would have a great amount of pain; he has practically no pain, and the reason is because the wound is an aseptic one.

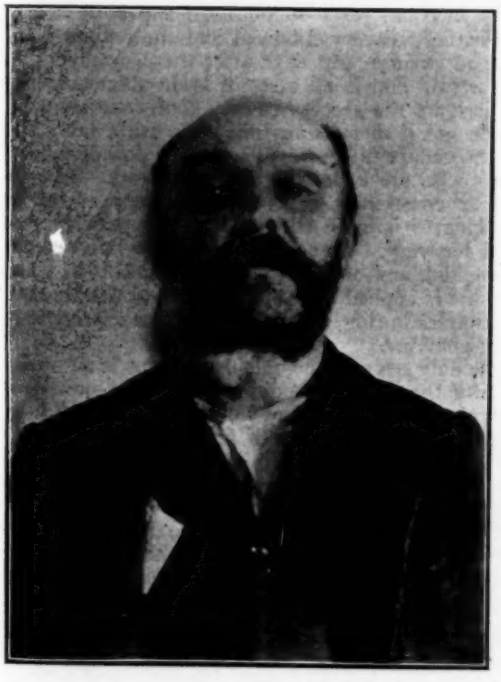
Case III.—Ulcer of the Leg.—Here is a patient illustrating another condition—she has an ulcer of the leg. As many of you know the condition known as varicose veins of the leg is frequently attended by a disturbed condition of the nutrition in the skin of the lower part of the leg. That disturbed condition of nutrition usually leads to an irritable state of the skin, which causes much itching; this gives rise to a dermatitis of an eczema. The scratching gives rise to infection and, sooner or later, the individual develops a sore or an ulcer upon the leg which has no tendency to heal, but to get worse. The story is a melancholy one in most instances. The condition most frequently occurs in those who are unable to take proper care of their legs. The occupation of these people are such as compels them to stand on their feet a great deal; this, of course, further impairs the circulation. The circulation becomes sluggish, and that further tends to keep the ulcers open. The prognosis of these ulcers, when untreated or improperly treated, is not good; yet, under proper treatment, it is possible to heal them, even when they are of large size. This large surface is in a very good condition, exhibiting a typical healing granulating surface. As you see the granulations are of a bright red color, they bleed readily enough, the edge of the raw surface pushing itself in towards the delicate white cuticle. This is a sign of a healing ulcer. In the center of the ulcer are white spots; there are several of them, and some are quite large. Here grafts have been applied to the ulcer, and they have been applied with great care. Everything has been kept carefully clean and she is doing very well. The surface was one-third as large as my hand. Careful attention to cleanliness, careful supporting of the veins by the application of strips of plaster has caused the ulcer to appear so well. The best treatment I know of is the application of some material which will support the venous circulation and

there is only one method of treatment which will do that, and that is the application of diachylon plaster, placed on in strips. We find it useful to have a certain amount of drainage. This method of treatment—skin grafting, the application of strips of plaster, in con- the one that was advised by Dr. John Woodbury to whom so much credit is due and given. These strips of diachylon plaster are drawn quite tightly and covers the whole surface, each strip overlapping the other, and being carried around the entire limb. They support the circulation in the veins. These diachylon strips are first wet in hot water before placing them in position. This is an old method of treating ulcers of the leg but it is a very valuable one. It is a good plan to begin the strips at some distance below the ulcer and to continue it some distance above the ulcer; in this way the circulation is supported in the entire limb. This plaster does not produce any irritation to granulating surfaces.

LIPOMA SIMPLEX OF ANGLE OF JAW AND NECK.

BY H. O. SOMMER, M.D., WASHINGTON, D. C.

The tumor shown in the cut was removed by the late Dr. Cornell, of the surgical staff of the Metropolitan Hospital. It came under my observation previously and independently, and as pathologist during and after its removal by Drs. Cornell and Rennie.



It was plainly a case of non-metamorphosed firm lipoma, as far as determinable by external examination, and its removal, which was accomplished by a very pretty dissection of the angle of the jaws, involved an elaborate demonstration of the anastomosis of the external and internal caratids, etc., and showed the lipoma to be of the diffuse variety.

According to Grosch, who has of late made an exhaustive study of lipomata, it was situated between the classical locations, *i. e.*, throat and nape of neck. As the patient was heavily bearded it is an exception to Grosch's attempted claim that lipomata have a predilection for scantily haired regions, where also the sudariparous and sebaceus glands are scarce.

SOCIETY REPORTS.

THE NEW YORK ACADEMY OF MEDICINE.

SECTION ON OTOLOGY.

Stated Meeting, Held May 8, 1901.

James F. McKernon, M.D., in the Chair.

PRESENTATION OF A CASE OF RODENT ULCER OF THE EAR.

Dr. Wolff Freudenthal: This patient, whom I have the honor of presenting to the Section, was sent to me from the West Indies. He is forty-five years old and has been sick about six years. His disease commenced as a rodent ulcer, or epithelioma of the skin, below the ear. It progressed and affected the ear, and his attending physician, Dr. Lens, treated it with different astringents. The remedy that produced the best results was arsenic applied locally. The disease did not make any advance, so the doctor was satisfied with the use of astringents. Later on a new eruption appeared and he went to different physicians for treatment, all of whom advised a radical operation. Dr. Lens opposed it. In June of last year this operation was performed. As you may see about two-thirds of the ear and a good deal of the skin of the face was removed. Before the operation the patient could hear well, but afterwards it diminished. The canal, which formerly was of normal size, is now very much smaller on account of the cicatrization. Right after the operation was done the ear commenced to run, and it ran freely, although the physician cauterized it frequently with the galvano-cautery. When I first saw the patient it ran very much and there was a very bad odor with it. The mastoid was free. I could not make an inspection of the inner ear because I could not see anything on account of the narrowness of the canal. The probe entered one-and-a-half inches into the ear and I noticed bare bone toward the front. I am particularly interested in the treatment of this case. Among the different things that I have used experimentally for his relief so far is electric light. If the rays of electric light do what is claimed by so many—*i. e.*, if they are capable of killing bacilli, I thought this would be a good case for their application. We all know very well that the rays of electric light will destroy every tubercle bacilli, and I thought I ought to get some good effect from its application in this instance. I must say that the discharge has diminished very much, so that now the patient does not require the use of cotton in his ear. The patient here is particularly interested in the question as to whether this might not develop into malignant disease. I would like the opinion of any of the gentlemen present. The discharge from the ear has not been examined as yet by me.

PRESENTATION OF A CASE OF MASTOID FISTULA.

Dr. Thomas J. Harris: This case is a simple one, yet I thought that possibly it might prove of interest to members of the Section. The patient is a young woman, about twenty years old, who was operated upon one year ago last March, an ordinary mastoid operation being done. She was in the hospital about eight weeks and was then discharged as cured. I think she kept on coming to the morning clinic to see the house-surgeon for a period of two months after, when she dropped out of observation until the early part of last winter, when she came to us complaining of much noise in the ear. An examination of the mastoid wound showed in the extreme upper opening a fistula. This has persisted for

two months. A probe introduced will sweep down into the attic. There is very little discharge; at times, none. The drum membrane has entirely healed up.

I suppose the gentlemen of the Section have had many such cases, but I thought they might be interested and wish to look at it. The tube is quite patulous. The *incus* is *in situ*. I am in doubt as to whether I am justified in cutting down upon it without further symptoms being present.

PRESENTATION OF A CASE OF ABSCESS OF THE BRAIN.

Dr. James F. McKernon: This is a case of tempero-sphenoidal abscess which was operated upon February 8th. I saw the case on the 7th of February, and the symptoms present at that time were, upon inspection, a very marked purulent discharge from the external auditory meatus. The patient was partially comatose. The temperature was about 97°, the pulse 54, and the respirations 16. The eyes were not examined, there being no facilities for an examination at that time. Upon sweeping the pus from the external auditory meatus nothing could be seen in the deeper part at all except prolapsus of the superior and posterior wall, which came in contact with the lower wall. It was learned that the discharge had existed over a period of thirteen years.

The probable diagnosis was made of brain abscess. No efforts at location was attempted. Operation was advised and was performed on the following day. Previous to the operation a probe was passed into the external auditory meatus and encountered exposed bone over the inner tympanic wall; this was verified later, when it could be seen where the destruction had taken place. Previous to the operation the discharge from the external auditory meatus was examined by the pathologist, Dr. Dixon, who reported that there was present a large number of streptococci, also some diplococci and staphylococci. The ordinary mastoid operation was performed. The mastoid was found to be as hard as ivory. Practically there was no mastoid there, its place being taken by hard, bony tissue. Feeling sure that there was a collection of pus in the cerebrum, the incision was extended forwards over the temple, and the flap was retracted upward. I found here softened bone directly over the roof of the tympanum, which extended upwards about one and one-half inches. A large collection of epidural pus was found beneath this bone. After the bone had been removed to expose this collection of pus the dura bulged into the wound more so than it does normally. The dura was incised sufficiently to admit a grooved director. This passed inwards and upwards for about two inches. When it was withdrawn there followed no pus. The incision was then enlarged, and the index finger introduced two or three inches in the direction that the director had been passed, and the finger then came in contact with soft tissue, and, upon withdrawal of the finger, a discharge of pus followed. About four or five drams of pus, with broken-down brain tissue, was evacuated. This cavity was then irrigated with a hot saline solution and the patient was taken back to bed and no unpleasant symptoms followed for forty-eight hours. After irrigation, this cavity was packed, according to the method of MacEwen with gauze rolled in equal parts of iodoform and boric acid. The morning following the operation the pulse had increased from 54 to 82 or 86 and the respirations were normal. Previous to operation the patient had complained somewhat of dimness of vision on that side and light paining on both sides. The attending physician told me, too, that aphasia was present. At the end of forty-eight hours after the operation there was a slight rise in temperature (100.5°) with a correspondingly increased pulse-rate. The dressings were removed and a small amount of pus was found with quite a little serous discharge. The wound was again packed in the same manner as before with gauze rolled in a powder of equal parts of iodoform and boric acid, and this was left in for four days. The temperature dropped to 99°, and the pulse ranged from 75 to 86. This was six days after the operation. Owing to a suggestion made in this Section some weeks previous, I determined to try drainage by the use of tubes. I irrigated the cavity with the hot saline solution and a moderately large-sized tube used down deep in the abscess cavity and then applied the usual dressings. The patient was seen the following morning, apparently well, but, about 2 P. M., there was a slight rise in the temperature (100.5°); at 5 P. M., 101.2°. There was a corresponding increase in the pulse-rate to 106, but the respirations were not noticed to be increased. There appeared marked aphasia for the first time in seven days, and the patient complained of an intense amount of pain. Thinking there was a collection of pus present, the dressings were removed and the cavity was found to be full of pus. The drainage tube had evidently not carried the discharges away. The wound was again irrigated with the hot saline solution and the tube was discarded. The wound was then packed lightly with a wick previously rolled in equal parts of iodoform and boric acid. An uneventful recovery followed and the patient was discharged twenty-eight days after the operation.

It is said that in all cases of brain abscess we should not irrigate the abscess cavity. I do not see why we should not if there is anything to wash away. I know this procedure is contrary to the opinion of many surgeons who are experienced in this work. In a series of four consecutive cases seen I have used hot saline solutions to irrigate with and all the patients made a good recovery. Three of these cases were tempero-sphenoidal, and one a cerebellar, abscess. Just enough pressure is applied to enable the fluid to pass in and out. Of course, during the last dressing no irrigation was used whatever.

The only symptom complained of now is an occasional lapse of the aphasic condition which was quite marked for a time after the patient's dismissal from the hospital. At the present time there is a free communication with the middle ear. Above this communication a probe goes into soft tissue for probably about one inch. The abscess cavity was completely closed.

The epidural pus and also the pus from the brain cavity was examined by Dr. Dixon, who reported that the streptococci predominated. Attacks of pain had existed in this case over a period of three years.

PRESENTATION OF A CASE OF EXTERNAL OTITIS.

Dr. William H. Bates: This case which I have the pleasure to present to the Section is one of great interest on account of the complication which followed after a mastoid operation. She presents something that I have never seen before, an inflammation of the cartilage of the external ear. This inflammation has increased since the operation upon both mastoids. Before the operation there were no evidences of inflammation of the external ear. I would like to go briefly into the history of this patient with the hope of obtaining some indications for treatment from the members present.

This patient, about a year and a half ago, was attacked by grippe with acute purulent otitis in both ears. She was in bed about one month. She had an abscess, not

only in the ears, but also in the foot as well. I treated her for a few months and she made a good recovery. About nine months later she had a relapse and she again began to discharge from both ears. Her condition became worse and worse. Her general health became much impaired. She lost weight steadily. Her bowels became constipated. She was unable to eat on account of increased nausea, and she vomited almost everything she ate. Her pulse became slow, very weak and irregular and her temperature subnormal. She had increasing attacks of pain in the ears and after six months of treatment without benefit I operated upon both ears. At the time of operation the pulse was about 30, and very weak and irregular. The temperature was below normal, and she had constant attacks of nausea and vomiting. I first operated upon the right ear. While under the influence of ether she had constant efforts at vomiting, but when I finished the operation these efforts ceased. The pulse, which had been 30, became 60 to the minute. I then operated upon the left ear and, while still under the influence of the ether, the pulse became stronger. I took away bone from the posterior and upper wall of the external auditory canal, opening up the part freely, but I did not find any large amount of pus. Before the operation the cartilage of the external ear had given her no trouble whatever; but, the next day, the external canal of both ears was completely stopped up, and she had a most agonizing pain, which has continued pretty much ever since. The external canal of the right ear, at the end of about one month after the operation, became quite open, but that of the left ear has remained completely closed, so that I have been unable to introduce even the smallest probe into it.

I should like to have some of the members present look at her and make an examination of the ear, and make some suggestions as to the treatment of the case. The slightest pressure cannot be borne by her. She has had attacks of swelling over the mastoid and its neighborhood, which has somewhat subsided, but there still remains some swelling over the bone. Since the operation her general health has improved very much, and she has gained considerably in weight. But she still has a catarrhal inflammation of the stomach and bowels, and some attacks of nausea. At the time of the operation I used some iodoform.

Dr. Thomas J. Harris: What was the condition of the middle ear before the operation, and how much destruction of tissue was found in the mastoid cells?

Dr. Bates: The mastoid cells were swollen and the bone was sclerosed, much more so on the right than on the left side; the bone was like ivory. I had a bacteriological examination made and the pathologist reported the presence of staphylococci. The middle ear was nearly normal.

Dr. Thomas J. Harris: I agree with the statements made by Dr. Berens, but I think that, in addition to the uric acid diathesis being an exciting cause, that any operation upon the mastoid should also be considered an exciting factor. In this case just presented I think the traumatism caused by the removal of the posterior wall, etc., is sufficient to act as an exciting cause.

In the cases that I have had I have noted a decided improvement by the use of varying sizes of drainage tubes. I remember one case of total occlusion of the canal which was opened up by the use of the rubber drainage tube. If the doctor has not tried this, I would urge him to attempt this procedure.

Dr. Bates (closing the discussion). I am glad to hear what has been said about the uric acid diathesis, because it applies so well to the condition of this patient. She has uric acid diathesis as badly as people get it. The urine at times has a specific gravity of 1050, and only by the ingestion of large quantities of water and alkalies can this patient be made at all comfortable.

In regard to the operation itself being an exciting cause of this condition, I do not understand how that could be. I have done this operation more than twenty or thirty times, and I have never seen it occur before. This patient was operated upon six months ago, and the inflammation of the auricle is worse now than it ever has been. Not only did she have an inflammation of the auricle, but it extended down the neck and in front of the ear.

Dr. Harris has referred to the use of tubes. We used tubes in this case, and they worked well in the right, but not the left ear. I introduced quite a large-sized tube after the operation, but now I cannot get the smallest-sized probe in the left ear at all.

In regard to the use of hot water for syringing, the patient used large quantities of it—gallons—during four months to relieve the agonizing pain. I do not know when I have had a case where the treatment gave me so much concern as has this one.

PROBLEMS IN TREATMENT.

TREATMENT OF BAFFLING CASES OF EPILEPSY.

THE success of a practicing physician may depend on his power to treat successfully or at least to ameliorate some old worn out case of his vicinity. For example, some worn out hypochondriac who has wandered from doctor to doctor, some chronically ailing invalid who has been given up by every physician in despair, or some epileptic fast on the downward path, if the busy practitioner will give plenty of time and thought to these cases, it is surprising what he can do and what good he will reciprocally receive from his patient.

Epilepsy is one of the despairs of the profession as yet, unless the recent newspaper reports are true in which a Chicago entomologist claims that it is due to an intestinal parasite. Newspapers have, however, a sweeping way of proclaiming medical truths and a bare hypothesis or suggestion whispered by a medical man in Berlin, London, or Chicago, becomes the full-paged truth, without reservation or limitation, of the Sunday yellow journal.

It is well, therefore, for the physician to be as well prepared for his epileptic patients as he can. Personally I have collected for years all the reports, prescriptions and treatments suggested by any one in any form of periodical or book literature. In the first place, the question of the possibility of any fallacy in conclusions as to the efficacy of therapeutic measures must be considered. Data from patients or their friends is frequently so meager or unreliable that the physician is baffled or misled. It is not enough to start a routine treatment; the patient's relatives must be instructed to watch him carefully, to see whether the convulsions are limited to a part of the body or commence in any certain group of muscles. The people around an epileptic should be taught what to look for. Some epileptics will have fits with great regularity, others with irregularity; some will have attacks at night and some in daytime, some will have only attacks of grand mal, some petit mal, and some will have a mixture of the two. So that we should learn the character, severity, frequency and natural history for at least two years previously; then we

have data on which to form our own opinion as to the results of treatment. Diller has written a beautiful description which fits the action of the average remedy with wonderful accuracy; it is as follows:

"If we make a dam of clay across a small brook, the flow of water below that point is stopped for a time. This is about the way I have thought that some of our remedies act in epilepsy. Now, when the water accumulates above the dam in sufficient volume it flows over the dam, and the stream below soon regains its natural volume. So with epileptic fits. As soon as the water begins to flow over the little dam, we can again stop it by adding more clay to our dam. So in the case of the epileptic. We can again stop the fits by increasing the dose of medicine. Again the water reaches the top of the dam and pours over. Precisely so with the epileptic. The increased dose of medicine averts the fits only for a little longer time. But in the case of the epileptics we are apt in time to remove the entire dam. Then the accumulated fits come down. It seems that all the pent-up nervous energy must sooner or later become manifest. The convulsive force that becomes manifest after the removal of the therapeutic dam may manifest itself in a small number of fits of great severity or a large number of less severity. It is only necessary that the dammed up convulsive force must *somehow* be exhibited. The action of the medicine should be watched for at least a year if it does good; a few months is too short a time to vouchsafe an opinion. Again, while a remedy may seem to reduce the number of convulsions, does it reduce the severity of the occurring convulsions? If the fits are reduced from three a month to one, but that one is three times as severe as the regular convulsion, the question of the value of the remedy is in doubt, and the effect upon the mental and moral status of the patient must be regarded. If we simply obtused the intellect in stopping the convulsions, the value of our work is to be doubted, or if we destroy the general health of the patient, again are our results to be questioned."

The following are some of the remedies noted in the treatment of epilepsy, alphabetically arranged: Acid, picric; acid hydrobromic; acid sclerotinic; ailanthus glandulosa, borate of ammonium, bromide of ammonium, carbonate of ammonium, valerianate of ammonium, nitrite of amyl, antipyrine, anesthetics, antifebrin, apomorphine, asafetida, arsenic, atropine, shower baths, belladonna, blisters, borax, bromides, bryonia, brucia, calabar bean, bromide of calcium, camphor, monobromated camphor, cannabis indica, cautery, oxalate of cerium, hydrate of chloral, chloroform, cinchona, conium, salts of copper, corrosive sublimate, counter-irritation, curare, digitalis, electricity, ergot, fishberry, gelsemium, bromide of gold, hyoscyamus, spinal ice bag, ignatia, indigo, iodide of mercury, bromide of iron, hydrocyanide of iron, bromide of lithium, lobelia, hydrobromate of lobeline, milk, mistletoe, musk, bromide of nickel, nitroglycerine, nux vomica, cod-liver oil, oil of turpentine, opium, paraldehyde, phosphorus, picrotoxin, iodide of potassium, bromide of potassium, quinine, rue, santonin, setons, nitrate of silver, oxide of silver, biborate of sodium, bromide of sodium, nitrate of sodium, stramonium, strychnine, sumbul, tartar emetic, veratrum viride, valerian, bromide of zinc, lactate of zinc, oxide of zinc, sulphate of zinc, valerianate of zinc.

This is certainly an imposing list; yet all these remedies have been tried and most of them reported upon favorably.

The use of antipyrin combined with the bromide of ammonium has been very favorably commented on by Hay, Potts and Wood. The drugs were combined as follows: eight to ten grains of antipyrin and fifteen to twenty grains of the ammonium salt. Gastric disturbance and the symptoms of bromism are claimed to be avoided by this treatment. Mairet has reported favorably of the use of the borate of sodium. Dr. N. S. Davis recommends the following combination of bromide of potassium with digitalis as follows:

℞ Potassii bromidi ..... ʒvi
Tincturæ digitalis ..... fʒvi
Extracts galii albi fluidi ..... fʒiij
Elixiris simplicis ..... fʒij
Sig. A teaspoonful before breakfast and before supper and two teaspoonfuls at bedtime.

The following prescriptions are varying combinations of the bromides:

℞ Sodii bromidi
Ammonii aa ..... ʒss
Elixiris cinchonæ ..... fʒj
Tincturæ belladonnæ ..... fʒj
Glycerini ..... fʒj
Aquæ ..... fʒj
Sig. A teaspoonful after meals, in water.

Bunduy recommends:

℞ Sodii bromidi ..... gr. xx
Extracti ergotæ fluidi ..... ʒss
Sig. Three times a day.

Dunglison recommends:

℞ Chloralis ..... ʒij
Ammonii bromidi ..... ʒiv
Syrupi lactucarii
Syrupi zingiberis aa ..... fʒiij
Sig. A dessertspoonful three times a day.

A simple way of giving bromide and chloral is as follows:

℞ Potassii bromidi ..... ʒiij
Hydratis chloralis ..... ʒiij
Aquæ ..... fʒvii
Sig. Half a teaspoonful to be taken on rising and retiring. The dose to be doubled at the end of a week.

The London Hospital has a stock prescription as follows:

℞ Potassii bromidi ..... gr. x
Tincturæ conii ..... nx xxx
Tincturæ valerianæ ammoniatæ .... nx x
Aquæ camphoræ ..... ʒj
Sig. One dose; take three times daily.

Another favorite of this hospital is:

℞ Potassii bromidi ..... gr. x
Spiritus chloroformi ..... mxviij
Infusi quamæ ..... ʒj
Sig. One dose, thrice daily.

The late Dr. W. A. Hammond recommended:

℞ Zinci bromidi ..... ʒj
Syrupi simplicis ..... ʒiv
Sig. Ten drops to be given three times a day, increasing if necessary to fifty or sixty drops.

Dr. E. C. Mann recommends:

℞ Sodii bromidi.
Ammonii bromidi aa .....℥ss
Potassii bromidi .....℥j
Syrupi hypophosphitis compositi....f℥iij
Syrupi tolutani ..... ℥j
Aquæ menthæ piperitæ .....℥jss
Liquoris potassæ arseniatis .....℥j
Sig. Teaspoonful thrice daily. The arsenic is supposed to prevent bromism.

In epilepsy with irregularity of the heart, Da Costa recommends:

℞ Zinci valerianatis ..... gr. iii
Extractæ belladonnæ .....gr. ⅓
Pulveris digitalis ..... gr. ¼
Sig. One pill thrice daily.

Professor Shoemaker, in anemic epilepsy, recommends:

Potassii bromidi .....℥vi
Syrupi ferri bromidi .....℥vi
Tuncturæ chiratæ.
Elixis simplicis aa.....℥j
Aquæ cinnamonii q. s. ad.....℥vi
Sig. A tablespoonful three times a day.

Brown-Séquard recommends the following combination, should the patient show a failing heart:

Sodii bromidi
Potassii bromidi
Ammonii iodidi aa .....℥jss
Potassii iodidi
Ammonii iodidi aa ..... ℥ jss
Ammonii carbonatis .....℥j
Tincturæ calumbæ .....℥jss
Aquæ q. s. ad .....f℥viii
Sig. One and a half drachms to be taken before each meal and three drams at bedtime.

Hagar introduces a shotgun prescription which may, however, be very useful, as follows:

℞ Atropinæ sulphatis .....gr. jss
Strychninæ nitratis .....gr. iii
Quiniæ sulphatis .....℥ss
Potassii bromidi
Extracti trifolii aa .....℈viiss
Glycerini
Althæae radicis aa ..... ℈ ii
Arthemisiæ radicis q. s.
Sig. 200 pills, one thrice daily.

As a tonic in epilepsy Hammond suggests

℞ Quiniæ sulphates.
Ferri pyrophosphatis, aa .....℥i
Strychninæ .....gr. i
Acidi phosphorici diluti .....℥ij
Syrupi zingiberis .....f℥ij
Aquæ q. s. ad .....f℥iv
Sig. A teaspoonful three times a day.

Trousseau recommends the extract of belladonna and the powder of the belladonna leaf, each one-fifth of a grain, to be given over a long period, beginning with one pill a day for a month, then with each succeeding month increasing the dose until twenty or more pills are given daily. When improvement takes place the last dose is maintained for a time and then gradually reduced in quantity.

All these prescriptions are well tried and give a physician a large armamentarium with which he can approach an epileptic case and say with truth to the patient and his family: "I have many ideas and remedies at my command. Possibly among them we will find relief."

The Woman's Medical College of Pennsylvania (1850) was the first woman's medical college, the first to admit women to professional education, and the first to recognize the equality of women with men in the scientific study of medicine, says the *Philadelphia Press*. The New York Women's Medical College, of late wisely converted into a field for special laboratory work, was not opened by Dr. Blackwell until 1853. The University in Paris opened its doors to the medical examination of women in 1868. The London School of Medicine for Women, whose new buildings in 1898 were opened by the Princes of Wales, and of which Huxley said that its examinations showed "that there are hundreds of women who have the capacity and power to do the work of medical practitioners just as well as it has been done by the great majority of their brothers," was not opened until about twenty-seven years ago. The first woman took her degree in medicine at St. Petersburg in 1869, and a Medical College for Women was established in 1887. Senorita Martina Cassells y Bellaspi at about the same time at Madrid was the first Spanish woman to take a degree in medicine, and in 1896 Queen Marie Amelie took her degree in Portugal. Madras opened its medical school to women in 1875. In 1893 the Scottish Association for the Medical Education of Women for the first time secured admission for women to the Royal Infirmary at Edinburgh, where the medical students of the university receive most of their clinical instruction, and while St. Andrew's was giving women degrees, as did Dublin, Edinburgh refused them. The London College of Physicians as late as 1895 still refused women admission to its examinations, though Oxford opened its medical examinations in 1890 to women. In this country the fight may be deemed won when in the same year Johns Hopkins, beyond question the most exacting, best equipped, and most advanced medical school in the country, admitted women.

Dr. Thomas M. Markoe, professor emeritus of surgery at Columbia University, died at the age of eighty-two. Dr. Markoe was born in Philadelphia. He was graduated from Princeton in 1836, and from the College of Physicians and Surgeons in 1841. He was known personally as teacher, consulting surgeon or in other professional capacities to a large number of physicians, especially in this city. Up to his death he was consulting surgeon at the New York, Roosevelt, Mount Sinai, Woman's, St. Mary's, Vassar and Nursery and Child's Hospital.

Dr. Charles J. Pollarn, of Princeton, Ky., reports a case of chronic gastritis in a man of 57, promptly cured by hydrozone and glycozone. The patient was lean, languid, dull, expressionless eyes, coated tongue, dirty, sallow-colored skin, gave history of indigestion for last four years, characterized by eructations of sour materials, pain after eating, nervous depression, sleepless nights, constipation alternating with occasional attacks of diarrhea, vomiting, not marked, loss of flesh, weak pulse, flabby muscles, in fact, a typical case of gastric catarrh in its chronic form.

MISCELLANY.

—An anonymous donor has given $500,000 to the North London Hospital for Consumptives.

—Covering a felon with linseed oil sometimes gives immediate relief.

—The following call for professional services was sent to a doctor recently: "Dear Doctor: My wife's mother is at death's door. Please come and see if you can't pull her through."

—During the past fifteen years, says Dr. Trudeau, of the 1,176 patients discharged from the Adirondack Sanitarium, one-half are still living and one-half of these are perfectly well.

—The *Pennsylvania Medical Journal* states that in 1898-99 there were 10,018 students in the 393 training schools for nurses throughout the United States, and the graduates numbered 3,132.

—Dr. Harriet Cockburn, Toronto, has been appointed physician to the New Victoria Asylum for Women at Cobourg, Ont., the first instance of a lady physician being appointed to a similar position in Canada.

—The Cheshire National Bank of Keene, N. H., has recently taken a very unusual precaution. Scarlet fever is epidemic in that town, and, to prevent its spread, the bank has put in a sterilizing oven, in which all the money which passes through its hands is to be treated.

—Probably the smallest monarch in the world reigns over the Hindu vassal State of Bhopal, and governs a people of more than 1,000,000 souls. The dwarf is a woman, Djihan Begum by name, but although she is about fifty years of age, she appears no larger than a child of ten.

—Parties of medical students in Chicago are taken three times a week to the Isolation Hospital to study smallpox. This is right, the *Medical Age* thinks, and might be done in other cities, not only without present danger, but to the material reduction of danger from smallpox in future.

—Dr. A. K. Bond suggests that, since coated pills are convenient and will be used, it is wise, by scratching through their coating with a penknife or scissor point, to make them as open to attack by the digestive juices as are fresh-made pills. Patients, also, should be told to perforate their capsules.

—Prof. Virchow, at the recent London Tuberculosis Congress, said: "Nothing remains but for me to maintain more positively than ever my view that the decisive thing in tuberculosis—the pathological sign of the disease—is the tuberculous nodule ["Tuberkelknoetchen"] and not the bacillus as such."

—Every practitioner, Dr. Ransford E. Van Giesen thinks, should be a good cook. Even the best trained nurses are often woefully ignorant on this matter, and the medical attendant should always be ready to give exact instructions as to the proper preparation of diet, and, if need be, to prepare it himself.

—It is reported from Durban, Natal, that the Delagoa Bay district of Portuguese East Africa has been terribly afflicted by fever. In the last three months there have been 500 deaths. The normal population is about 3,000, but has been reduced owing to the war and the resulting commercial depression. This is the highest death rate in the world, and if it continues it will mean the extermination of the Europeans in that territory.

—Dr. Howard Lilienthal, in the *New York Medical Journal*, February 9, 1901, tells his method of closing wounds of the skin after operation. He uses a zinc oxide plaster to hold the skin surfaces together, having an assistant accurately approximate the edges. He says this method is applicable to all clean-cut wounds where there is no tension. He uses it after all kinds of operations, suturing the deeper tissues with buried sutures and using his plaster on the skin surface. This method reduces the scar to a mere line and prevents all possibility of stitch abscess.

—The Christian Scientist and Faith Curist, viewed from a commercial standpoint, are getting to be recognized as persons who do not take average care of their lives. For insurance purposes they are being classed along with habitual drinkers and those who follow hazardous occupations. Thus, one of the greatest and most conservative insurance companies in the world, the Mutual Life, of New York, refuses to issue policies upon the lives of Christian Scientists.

—A doctor once presented himself at the Golden Gates for admission, and after passing a fair examination as to his conduct, St. Peter agreed to permanently admit him if he could pick out Adam and Eve from the assembled angels. The doctor looked around and soon found his progenitors. Peter asked him how in the name of the golden harps he had managed to recognize them. "Oh!" said the doctor, "that is easy; they are the only ones without an umbilicus."

—In Berlin, three doctors named Grau, Freiberg, and Hermann have established a reputation for eradicating disease from men and beasts by driving it into trees. The cures are effected at night on Tuesdays and Fridays of the week of full moon. A needle is stuck into the skin over the affected part of the body, and remains there until a few drops of blood appear. The blood is collected on a sheet of paper, and the paper is rolled in the shape of a pill. The "doctor" then goes into a wood alone, carrying this pill, selects a tree and inoculates the bark with the pill. The process of bloodletting and inoculation is repeated three times.

—The signs on which a medical man should rely (*Brit. Med. Jour.*) as furnishing the best evidence of the reality of death, prior to the commencement of putrefactive changes, are:

1. The absence of circulation and respiration.
2. The gradual cooling of the body, the extremities cooling first, and the trunk last.
3. Gradual supervention of rigor mortis.
4. The production of post-mortem stains or ecchymoses.

The careful observation of these four signs by a medical man will enable him to distinguish a living from a dead body.

ORIGINAL ARTICLES.

A NEW THEORY OF BIOLOGY.

BY E. C. GETSINGER, DETROIT, MICH.

PART I.

TO present my new theory of biology comprehensively in a condensed form and at the same time make my premise perfectly clear, is not so easy a matter. It stands to reason, then(that the following article leaves more than a hundred and one questions unanswered.

The hypothesis of the atoms is universally accepted. And yet, since the atoms are resolvable to mere points of force which manifest in four different modes of motion—vibratory, rotary, chemical nature and gravitation—what was the condition of the particles before they became atoms of force in the abstract? They can only be resolved back into force in the concrete. There can be no other solution, no other condition. Concrete force is a reasonable possibility. The atoms only manifest mechanical motion and energy throughout all of their various conditions and aggregations.

In resolving the atoms back to concrete force, we need not necessarily assume that we are then dealing with the Creator.

This concrete force may have experienced a process of evolution through various stages ere it reached a point where abstraction or atomication of the force was possible. The Creator, as an Essence, lies back of all of this process.

Inasmuch as concrete force can be a reasonable possibility, and whose evolution finally manifests in atoms which ultimately outline the natural world and universe, why can there not likewise exist another quality of force which is higher than that of which atoms were produced, and whose expression and evolution finally manifests as an intelligent energy in species, in conjunction with the mechanical force? Such a force can just as well have been created out of the same essence as that force which manifests as atoms, and, in fact, created after the atoms and thus be the negative creation, while the concrete force which resulted in the atoms was the positive.

We then have a mechanical as well as an intelligent potentiality before the atoms existed. In creation, we can quite safely assume that the plan has always been toward an intelligent form of life. Mechanical motion can never be anything else from first to last, unless another quality of force, such as intelligence, combines with it. While the mechanical motions of the atoms can be classified into the four as given above, the intelligent force as manifested in man can be classified into nine—Consciousness, Perception, Reason, Judgment, Will, Abstraction, Imagination, Memory and Mental Taste. This negative force permeates all Nature in conjunction with the positive, and, for the sake of being definite, let us call this intelligent force Psyche or Soul.

After the atoms had transmuted their abstract gravitative motion into a concrete form—fluidal in nature and more subtle than the force known as atoms—and by an evolutionary process this motion finally became manifest as life. When life had finally evolved to a state where intelligence was possible to be manifested by them, then, and not until then, did primitive man become endowed with this psychic force which had hitherto been in abeyance. Then man became a being potential of what he is to-day, intensifying his psychic energy through experiences. This psychic force was not absorbed by him or other species, but was merely reflected into them, or breathed upon them, as it were, setting up a new mode of vibratory motion. We cannot say that the positive concrete force as existed prior to the atoms was finally dissipated in the atoms as these were projected, for the atoms are only the vibratory paths of the force which it assumed in its manifestation. In like manner are the nine faculties merely modes of motion expressing intelligence, while both the positive and negative essences from which emanated the atoms and psychic force still permeate the ether as ruling factors in nature. It is this Psyche, when concentrated by the Creator upon individuals, which manifests as prophets among men, whose mission is to give spiritual guidance to man, whose real destiny is a spiritual and not a natural one. While prophets may be men the same as others of their kind, yet their spiritual station is not comprehended by a worldly people, for we cannot comprehend our superiors.

When the negative concrete force vibrated, then myriads of scintillating particles were projected into being which expressed the path of motion of this vibration. The particles were in reality only the waves of vibrant energy which displaced the medium in which they moved. These are atoms. Within these rests the potent power which shall finally evolve into the Ultimate—Man.

The atoms whirled and vibrated as if they were myriads of musical scintillations. They moved inversely from their vast field of circumference to a common center by power of their gravitative motion. Nebula formed. The center finally became heated and those atoms so conditioned lost their gravitative power of inverse motion in proportion to the heat vibration which they contributed to the whole mass. Finally, stupendous, seething, incandescent masses were thrown into space and hurled around the heated mass in symmetrical profusion. These became worlds. The worlds cooled off, a crust formed, liquid rained upon the surface, filling cavities, dales and valleys. The cooling crust underneath the water-covered surface vibrated paths of motion up through the water, caused by contractions, and this process continued for a long period, ever resounding musical waves up through the liquid—and this in one continued strain.

The molecules suspended in the liquid, roaming hither and thither in quest of their mission in existence, were attracted to the vibrant waves which thus displayed their talent and soon surrounded these, and, being desirous of becoming factors in the harmony, united their infinitesimal forces and encompassed all of the waves of motion, and these finally became fixed growths—zoophites. Thus, as the heat radiated, contractions followed, and, since the heat was the sum total of the gravitative motion of the atoms transmuted, this and all species are the embodimerts of this transmuted motion. When this vibrant energy ceased as heat, it combined as does a fluid and became a vibrant motion whose path assumed a fern-like symmetry, and then collected around it by the law correspondence only such molecules whose vibratory pitch corresponded to the low pitch of the wave motion, which these finally encompassed and formed zoophites.

When these forms disintegrated, the vibrant waves which preceded the material envelopment likewise vanished. It seems that these little molecules turned spoilsmen, for every molecule which had been a factor thus far in the execution of the plan of creation had each received a part of the energy of which the vibrant wave

was composed. This addition spiritualized these particles, and the law of recompense was established. Yet, while these were disintegrating, others of like kind were constantly forming.

The earth's crust became slightly cooler, the vibrations intensified, their waves became more symmetrical and complex. As these waves played up through the liquid, their forms became of a higher nature than those preceding, and in equal profusion these arose. But the ordinary molecules passed these by. The music, tone and pitch of these vibrant waves did not seem to appeal to them. It was too high. But those molecules which had previously outlined the zoophites and had become dynamicized by the energy of which zoophite waves were composed, these gathered around the more intense wave-forms and living beings came into existence—fish.

All the natural laws were potential in the atoms and as the plan of creation evolved, these laws unfolded, so that the entire series of natural laws were developed through transmutation of mere motion.

> Thus a disintegrating mass,
> Must from form to chaos pass,
> And writhe in agony and in pain,
> Ere it reaches form again.

These forms also disintegrated after a time and the molecules which outlined the forms were again recompensed with a dynamic addition of the motion which they had just embodied. As the crust continued to cool off and more intense vibrations radiated, new forms of life came into existence, matter evolved in dynamic or spiritual energy and this in turn affected the atoms which expressed their evolution by a change of form, from that of ellipses to oblate spheres.

The spiritual symphony of life is being played, the first notes resulting in the zoophites and the fishes, while later the symphony of creation reached most complex composition. Finally animals of all natures and forms abound and strive upward in the evolution of their kind. Between each formation a well-timed and precise period elapses, and as a supposition let us say that seven thousand years elapsed before the processes matured sufficiently to bring forth each new form of life. At last a most complex wave motion came forth—intense, intricate, distinct from all preceding ones. The substance which had just disintegrated in the lower species soon enveloped these waves and an active, erratic, peculiar, lank, scrawny being began to struggle for existence among its predecessors—it was monkey.

The dormant period which elapsed between the species monkey and man was undoubtedly longer than usual, before the last species—primitive man—was ushered into existence by the most intense and intricate wave of motion possible to be expressed. Perhaps eight, nine, ten thousand years elapsed and no new species formed. In the meantime, some of the previously animated species of the last order did not disintegrate entirely as did the zoophite, fish, etc., but these instead cast off a sort of skin or membrane at times; these membranous tissues disintegrated and the molecules of these then collected and encompassed the next succeeding path of motion, which became the next higher species. Consquently, the next species would be enveloped by the substance from the cast-off membrane of the monkey species, and the monkey from that preceding it, and so on down the scale.

Twenty-five thousand years elapsed and yet nothing more than erratic species, monkey. Could we, at this time have had access to the pages of the future of creation, we would undoubtedly have found engraved on the tablets of Omniscient Knowledge sentiments as the following:

"This lapse of time is for wisdom. Man which is to be the next and last of our Creations is the Crown of Life, the apex of Potential Destiny, the Ruler of all preceding, and is to be endowed with an intelligence which will enable him to consume the fruit of the worldly Tree of Knowledge, and likewise penetrate into the Spiritual Mysteries which shall give him an inner consciousness of his Creator; but this intelligence is to be only the reflection of My Powers, which manifests as Psyche, consequently his knowledge is reflected knowledge only—the shadow of the real—for he, being only the reflection of My Attributes can only perceive reflectively, and if in the use of these powers he fulfills his highest possibility, he shall be grafted to the Tree of Life."

"It is on account of these high powers of innate search and comprehension of worldly knowledge, that We decree this lapse of Forty Thousand Years before the last and greatest Creation shall become animated; so that there will develop such a difference between the outlines of this last Creation and that of the form of man, that there will be a missing link of succession; for this Creation, Man, will become so inflated with his acquired knowledge and seeming correct classification of sucessive creations, that unless We place a Chasm between him and the species from whose substance We will create him, he will in his egotism exclaim that there is no God and that all things are of Nature, the sequence of laws, the metamorphosis of one species into another, and not to be distinct in kind, as is the truth. Since We began the Creation, that We may be known and glorified, the Hidden Treasure be found and appreciated, such a chasm as We now decree is but an act of mercy on Our part, for in his denial of his Creator he would fail in that for which We predestined him in the atom. And thus he be grafted to and become a part of Nature—My Creations—instead of My Spirit."

Eventually, the most intense and complex path of vibratory motion came forth and the spiritualized molecules of the cast-off membrane of monkey enveloped this highest wave of motion whose path outlined the form of primitive Man, the Crown. These molecules have risen upward in their servitude from that of the zoophite to that of Man.

After a long period of observation, we do not perceive any development in the propensities of man toward intelligence, because these Creations are as yet merely composed of a mode of motion encompassed in a material vesture which clings to the underlying outline of spirit by the law of correspondence. When these beings succumb to the process of change and eventual death, the substance which outlines these forms physically would appropriate the vibratory energy of the dynamic form to themselves as individual particles.

These beings are as yet only mechanically animated, potential only of physical unfoldment. When once their forms are developed to a degree wherein it is possible to manifest intelligence, then Psyche will reflect intelligent powers into them. Each species will respond to only such a degree of intelligent motion of the psychic force as is in accordance with the order or species of life which these represent in the scale of creation. The lower creeping beings are left out entirely. But those beings which have received the psychic breath of quickening spirit exist forever, even after their material vesture ceases—exist as dynamic beings in a dynamic world, and are not diffused among the atoms of their bodies, because this psychic force concretes, fixes and perpet-

uates the dynamic entity of each species so endowed. Previous to this psychic endowment, these primitive species only expressed the mechanical action of the energy of which they were composed, and their motion to and fro in quest of favorable environment was prompted by the sensations produced by correspondences. When these were similar, then these beings would be attracted thereto; when dissimilar, they were repelled, and this apparent sense of self-preservation which almost indicates intelligence, is what is known as instinct.

If at this period of creation and previous to the psychic, all the dynamic acquisitions which express transmuted motion as encompassed by matter—if all the manifest energy so far expressing life, were put back into the original crust of the earth, back into the sun, back into nebula, back into the atoms, then there would be no more atoms nor force than there was in the beginning when the atoms were projected. All of this manifest life would be annihilated as soon as all of the atoms received back again their gravitative motion which these once transmuted. By metamorphosizing backwards we come to primal conditions and no surplus energy remains, for all of the myriads of forms of life were but the transmutation of motion and intensification of vibrant energy impelled to manifest motion and life by the very nature of energy itself. Though Creation may continue for eons and eons, yet no more force, energy, motion nor matter will exist in the end than was in existence in the total number of atoms Created in the beginning. While the atoms are a manifestation of mechanical force, Psyche, the Mystery, is but the reflection of an Intelligent Essence, and the difference between the two is manifest by the fact that one unites and disunites with others of its kind by the mechanical motion of its own being, limited by correspondence, while Psyche is a force which endows beings with a power of voluntary selection or rejection.

Evolution of the species finally changed their gelatinous bodies to those of greater density, brain and nerve centers were established, gradually aerial instead of liquid habitation was sought, respiratory organs and circulatory systems were established by the unfoldment of the dynamic paths of motion. In this state they were prepared for the subtle psychic energy, and as this came in contact with the lower forms of life only the lower psychic attributes were responded to by these lower species, and proportionately higher attributes were responded to by the higher species, while Man, the highest Creation, responded to the series of highest attributes of the psychic force. This was because the original spiritual wave-path of motion, or spirit of these beings was of a low and unintensified order, and only that would be responded to by the creature which corresponded to his dynamic organization according to the law of correspondence.

This imparted mode of psychic motion is what impels Man upward, onward in his destiny, and as his experiences increase, so does his psychic power become more intense. In the propagation of these species, these powers are transmitted in potent volumes to their seed, and unfolds as experiences give it impetus and is thus amplified. Thus Man is potential of the Perfect Idea (Image), and when this sixth cycle (sixth day) is past, his potent powers will have been so unfolded that in the end the Perfect Spirit will manifest in a "Tabernacle among men, and I dwell with them and be their God." (Revelation 21.) And such a one will speak to Man words of guidance and wisdom as will cease all strife upon the earth and bring everlasting peace to his seed. Then first will Man be in The (Spiritual) Image—Idea—when the vicious tendencies of his physical being has been conquered by the Spirit of His Attributes.

PART II.

As yet the science of therapeutics has no true basis—no immovable foundation of principles upon which to found its practice. I venture to say that perhaps scientists not allied with the medical science will bring forth such facts as will make this possible, but the percentage of real scientists among physicians is so small as yet that such a boon would not be readily grasped, hence make but little progress. It is only the young practitioner who is an enthusiast in these days in the theory of the practice of medicine and its application. The old and experienced practitioner is a silent unknown quantity, having reached a point where he is waiting for twentieth century developments. The real basis of cure rests upon biological knowledge, and in the absence of true knowledge we can only generalize.

When the extremely fine forces of nature are understood which combine in the generation, formation and maintenance of life, then the causes of diseases will be known, and the cure be easily found.

In the study of life we must deal with forces that have been veiled by a false philosophy of materialism, and erroneous idea of matter and its relationship to life. The finer forces with which we come in contact in these days are not capable of being grasped by every mind. It is a mental incapacity and not a state of ignorance. There is a subtle something—call it imagination if you will—with which some minds are endowed, making it possible for that mind to grasp the workings of a fine force, and this quality of mind being absent, makes it impossible for these to comprehend anything beyond a material proposition.

The latter are failures as homeopathists. In the philosophy of dynamics then is the realm of twentieth century research. All finer forces can only be characterized as being fluidal in nature—there is no other word to express it. They are merely transmuted modes of motion originating from the gravitative motion of the atoms. When similar vibratory forces meet they combine as do two waters. In prescribing an indicated remedy, action is established by the law of correspondence, for when the vibrant energy manifests a discord in the dynamic organization of human, it is called disease, and when a dynamic infusion of a remedy is made which corresponds to the normal state of the locality so disturbed, then by the law of correspondence an equilibrium is established.

In fact, man is merely a mode of motion as radiated from a cooling earth, whose path was that of the outlines of primitive man. Evolution unfolded his potencies only, and being founded biologically upon motion, motion more than anything else affects him, and the nearer to his quality of motion or spirit we get in therapeutics, the more forcible will be the effects. When crude drugs are prescribed, both the chemical and dynamic vibrations are present, which the stomach proceeds to separate, but the chemical vibration seems to neutralize to some extent the therapeutic agent, whereas the previously potentized remedy separates this interfering chemical vibration and direct dynamic action is attained.

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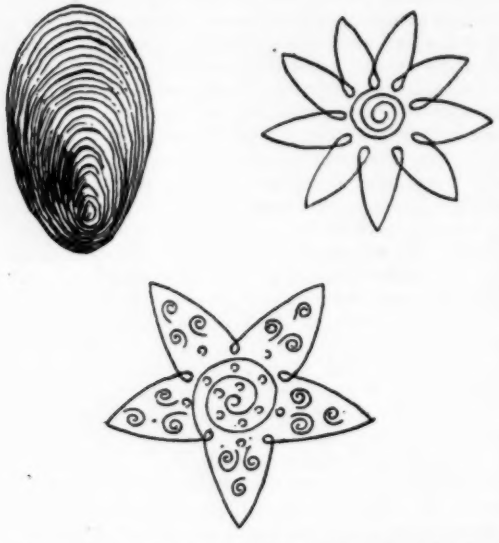
resembling flora, the vibrant paths of motion being caused by the contraction of the molecules of the glass; the same as a sound centered upon a tambourine head which holds some lycopodium powder will be outlined by the powder, and change its form whenever the sound uttered thereupon is altered.



The above clam, daisy and starfish are true reproductions of ordinary sound waves, as made by the voice upon a pastelike gelatine film placed upon a tensioned membrane. All three are obtained in one octave. The octave sound "A" produces another row of petals on the daisy figure. Nearly all sound waves or vibratory energy have paths of motion similar to some forms in nature.

Thus all forms of growth and life are as sound waves or modes of motion embodied in matter. Strip these paths of motion of their physical outline and you have the dynamic entity before you as it was in the beginning. As the vibrant energy became more and more intense the path of motion or its form, also changed to various shapes, and yet each higher form contains all these eccentricities of the lower; in this manner each species of life is distinct. Thus simple shapes and forms resulted from simple chords of vibrant motion and were succeeded by the more complex forms of life as the paths of motion were multiplied by intensification and combination, just as the successive chords on a piano are gradually encompassed in a sonata or symphony. If you take the simple tone "A" the path of motion or sound wave of a daisy is recorded; if that of high "C" then a clam wave is recorded, etc. Now were it only possible to record the sound wave of a whole symphony, then the intricate physiological groundwork embodied in the form of man would be visible. The different corrugations, twists and twirls, spirals and parallels of the paths are outlined by muscular tissue, nervous systems and centers, intestines and brain, and since motion cannot stop moving, nor can concreted motion be dissipated, the perpetual motion of life is maintained, be it in the physical vesture or out of it. Man when stripped of his material vesture would stand before my understanding as a being reverberating the intricate symphony of human life and organization.

While the physical framework is merely the outlines of an underlying dynamic network of silvery threads of motion, these paths are spread over the body in great surfaces. The brain, being the last organ performed, contains in a compact state and in miniature form all these spiral formations that are scattered over the body proper, certain parts of the brain governing certain parts of the body and its organs, sending the mental vibrations over the nervous system to the corresponding locality on the body. These thought waves must reach their destination by the force of the law of correspondence, and then thought becomes visible action. When a thought vibration is stimulated in the brain, it at once reverberates to the part of the body which has a vibration corresponding to it, and there the energy is absorbed, passes no further, but excites into action those parts that correspond to the trend of thought. For instance, if you take a square frame, tension over it a number of gut-strings, so as to get as many tones as possible, suspend this harp from the ceiling, then twenty feet away play some instrument, a 'cello, while another stands behind the frame possessing a keen sense of harmony and hearing, he will find that when the player strikes a note similar to that in which any of the strings are pitched on the harp suspended, such tones will excite that string into action and no other will be affected, and such a sound can hardly be heard beyond the harp, while if a tone is sounded which is not on the harp the listener hears it plainly. The silvery strings in dynamic man are a million times more fine, subtle and susceptible, but they operate under the same laws.

Another illustration can be taken from Edison's Duplex Telegraph instrument, which sends four different messages over the same wire to as many different cities. The Marconi Wireless Telegraph system is built upon the same principles of the law of correspondence, but has much more intensified magnetic vibrations. Any one who has a receiving instrument pitched in the same pitch and tone of the one in the transmitting station can gather in the Marconi messages. In this way are psychological vibrations absorbed by individuals far apart. In the realm of the finer forces is hidden the key to the mysteries of nature!

Man was created in perfect harmony. He was in perfect health; his wants were few. Finally superior intelligence manifested in a few, ambition fired their being; hatred, envy and murder followed, and this distorted the harmony of his spiritual symphony into a most terrible rasping discord. That discord entered into his very seed and became a negative quantity in his offspring and manifested in it as soon as a proper environment gave it soil. Several generations having this transmitted to them as an inheritance finally manifests as a disease in some corresponding part of his organization. Thus in order to know the origin of disease we must go farther back into history than parents. The Mosaic law "That the sins of the father are visited upon the children even to the seventh generation," is no idle command. I can boldly state that the Americans are to-day suffering from diseases that have reverberated down from Revolutionary times and even before. It is well known that diseases are not inherited in the original form, but are modified as generations spring up. While syphilis may manifest in skin eruptions originally, in the first generation it may manifest as density of mind or idiocy, in the second as neurotics, in the third as scrofula, in the fourth blindness and baldness; in the fifth, sixth and seventh the phase of this disease may be so modified that the practitioner may never attribute it to any disease of an ancestor.

When the practitioner is so versed in the forces that play upon the human being, that when he sees a physical disorder he will know what dynamical state he must attribute it to, then will a unitary basis to the science of

therapeutics be possible. Nowdays the echo of a disease of some ancestor has one name, when it reechoes in the next it has another name, until the seven echoes have seven names, but the original sound from whence these echoes came is not known nor understood. The subtle fluid composing dynamic man has been disturbed and placed out of harmony and this inharmony may be a latent condition until some environment calls it into positive action and then manifest as a disease. Where two or three different discords exist, there all three may manifest as a disease different from what one would manifest singly. All of these conditions react directly upon the bio-chemical structure of the body, and cause a like disturbance in the harmonious chemical arrangement of the tissues, for the absence of a single element or molecule in the tissues will cause a reorganization of the same, thereby manifesting disease. One school of therapeutics believes that certain compounds given into the stomach have an effect of annihilating a disorder through the chemical property of the compound, placing no stress upon the dynamic property of the substance in question. But the stomach, as a triturater, has no equal, because any substance taken in there is at once pounced upon by the fluids and put into impalpable molecules. Because of the inter-molecular interstices, the dynamic property dominates over the chemical when the quantity of a mass of chemical substance is reduced; and when the chemical mass is increased in quantity, the chemical property dominates.

The question now presents itself thus: Is it not the stomach which potentizes the crude drug to some extent and renders the dynamic property to be the therapeutic agent after all? And by this indirect process the disease may be cured or the symptom merely negated until a proper condition is reached where it will again manifest, and perhaps with one or two of its neighbors, and then it will be diagnosed as a new disease.

When the basic principles of the science of therapeutics are really understood then all diseases will be traced to a few primal causes, and compound diseases will be separately classified and treated. In many instances, then, consumption may be traced to ancestors who had submitted to an abuse of mercury in various forms. For years doctors prescribed blue mass the world over for almost every ailment. This disturbs the carbons and the siliciates in the bio-chemical structure of the body. In the offspring of such there will then be a tendency to phosphoric dominancy in the tissue through dynamic inharmony induced by mercurial after-effects, and this is conducive to a negative state of the vital forces—negative only to such diseases as correspond to this state of bio-chemical disorder. Germination of various forms of the bacilli takes place, because rapid disassociation of the bio-chemcial tissues take place where there exists an insufficiency of the carbonaceous substance to maintain an equilibrium, and this results in bacillular life. Thus pulmonary tuberculosis may after all be the reverberation of some form of mercurial abuse in ancestors—and not so far back either. When the lung tissues begin to degenerate a high rate of vibration takes place upon the lung surface affected (the same as a cell battery sets up a vibration when rapid disassociation of metallic substance takes place, resulting in electricity, a very crude force). This rate of vibration has a path in the form of the tubercle, so minute that it is hardly comprehensible, and as the degenerated molecules separate this fermentative vibration collects around this path such parts of the waste tissue as corresponds to the rate of vibration, and ere long we have a living bacilli in the place of the wave motion. These then thrive upon the substance of which they are composed, causing a rapid decomposition of lung tissue. To cure this disease it is necessary to keep the bio-chemical structure from rapid decomposition by infusing the substance which is lacking and thus hold the separating molecules together. When the system is saturated with this substance, the very nature of it causes the wasting of tissue to cease and the tubercle cannot form nor exist in any dangerous quantity.

Some eight years ago while formulating my new theory of biology and while studying the formation of lungs in primitive man, a friend developed consumption. I thought somewhat on the subject and resolved upon certain substances which cured him after about six months, and he is perfectly well to-day. Being engaged in original research day and night, year in and year out, I gave the matter no serious consideration, but finding while in Paris that people were dying by the hundreds I began to deem it my duty to perfect it. The remedy now acts as a cure in about twenty days and patients whom I cured eight, six, five, three and two years ago have shown no symptoms of the malady since. The remedy acts upon no other part of the body except the lungs and its therapeutic action is noticeable after four hours; the cough and expectoration is lessened at the fourth day, hemorrhages cease entirely and constriction of the lungs is maintained. The remedy is so simple that I dare not say much about it, but it will be tested in one of the large hospitals in New York within sixty days, if possible.

When the tubercles decompose the molecules of their degenerated bodies are charged with a dynamic energy which, in being assimilated by dynamic man—the real man—causes death because the rates of vibration in the vital centers of the patient are lowered so that physical and dynamic association are impossible and the patient dies.

The mosquito injects a poison into the system whose dynamic power exceeds the chemical energy by 10,000 to 1, and this dynamic infusion is amplified by every sympathetic motion in the body; finally it forms a species spontaneously which is called the malaria germ. I do not believe that the anopheles injects a germ.

Chemically, a man can stand all sorts of abuse of drugs as long as he confines himself to a class of drugs whose dynamic property is low in proportion to the chemical and in spite of the slave of a drug saturating his system therewith he will live for years and continue the use thereof; but let him take a small dose of a drug whose dynamic power exceeds the chemical, so that his dynamic organization is attacked instead of his chemical being, and you give such a patient ten minutes to live.

Remedies will eventually be classified into chemical, neutral, and dynamic classes and be prescribed according to inherited or acquired diseases. This can hardly be accomplished until the philosophy of dynamics can be generally understood by physicians. It is not a matter of intelligence, but a question of mental training which will stimulate into action the faculty of insight as was dwarfed by materialistic propositions and education. It is for this reason that I feel somewhat reluctant in expressing my views at this time, knowing that I am doing so in advance of general understanding.

—Microbe light is the latest Paris invention. A French chemist, Raphael Dubois, is said to have found a way of nourishing phosphorescent germs in glass vessels, which soon emit a light about as bright as the moon. He expects to increase its intensity, and believes that its being entirely free from heat will give it a scientific value.

A SYSTEMATIZED HISTORY OF THE INSANE FOR SIXTY YEARS.

BY J. HOWE ADAMS, M.D., PHILADELPHIA.

WITH the growth of civilization and the increase of the strife for existence it is interesting to turn to the figures of an institution long established for the treatment of the insane, for on a little study these figures grow interesting. The figures of this institution are made more valuable because it is a large hospital in which patients of moderate means are accepted, being the class of patients which come from that circle of society which form the bulk of every physician's practice. In fact, the managers of this hospital are so liberal that no application of any patient who seems to offer a reasonable prospect of recovery is declined because of the inability to pay the whole cost of support or even a portion of it. In fact, in many cases where there has been even a remote prospect of recovery or improvement, the applicant has been given the benefit of that doubt.

It has been found from the experience of recent years that it requires an expenditure of ten dollars weekly for stores, wages, fuel, furnishings, etc., to maintain each patient, so as to meet the average requirements of the community. This cost is double the rate of maintenance of forty years ago.

The daily average of patients in the hospital during the year 1900 was 436, of which number 186 were men and 250 women. As a result of a year's treatment 16 men recovered their reason and 25 women, making about ten per cent. of the number of cases in the hospital. Twelve men and 17 women, or 29 patients, were much improved in their condition, while 11 men and 19 women, or a total of 30, were improved. The condition of 15 men and 16 women remained the same, while 19 men and 16 women died during the year.

In a period of sixty years there had been treated in round numbers 11,000 patients, of whom 4,800, or nearly 50 per cent., recovered their reason, this number being almost equally divided between the two sexes. Three thousand were improved in their condition, again equally divided between the two sexes; while 1,600 remained stationary in their condition, of which 1,000 were men and nearly 600 were women. Here is a disproportion between the sexes. Again, in the number of deaths the ratio is not equal, for out of 1,700 deaths occurring in the institution, 1,000 were men and 700 were women. It is interesting to note that in this long period of years there is only reported the cases of three patients who were not insane as being admitted to the hospital, all these being men. This shows the ignorance of the belief that frequently sane people are held in insane asylums.

There were 4,000 patients in the hospital before it stood on its present site, so that altogether the hospital has treated some 16,000 patients, but unfortunately the records of this earlier number were not kept in such a way as to be valuable now.

It is interesting to note that of the patients discharged as recovered during 1900, 21 were residents of the hospital not exceeding three months; 11 between three and six months; 4 between six months and a year, and 5 for more than a year. This tends to show that the larger number of recoveries occurred in the shortest period of time, and that as the time elapsed from the period of admission the average chance of the patient to recover diminished.

Of those who were discharged "much improved" this statement is not so evident, for the numbers here are more easily divided, 8 being under treatment less than three months, 4 between three and six months, 10 between six months and a year, and 7 more than a year. In the list of those who died during the year there is nothing of any special significance, seven being in the house for less than one month, 1 between one and three months, 11 between three and six months, 2 between six months and a year, 11 for more than a year, while 3 were old residents, sixteen, nineteen and thirty-three years, respectively.

In comparing the results of the year with other years the percentage of recovery based on the admission of cases for the same period was 22, while the average for nine previous years was 35 per cent. This decrease in recovery percentage is attributed, however, to the accidental fact of an increased admission of patients suffering from incurable forms of mental and nervous diseases. Going further into detail the proportion of patients who entered the hospital with a form of disease favorable for recovery were 55 per cent., and during the last ten years over 1,000 patients were admitted who belonged to this class. Of this number 60 per cent. eventually recovered.

The hospital authorities believe that if patients were admitted earlier the percentage of recovery would naturally greatly increase. Friends of the patients still resort to various devices, such as travel, residence in private houses, seclusion, and so forth, postponing the time of admission to the hospital until it is accepted only as a last resort. Formerly, hospitals for the sick and injured were scrupuously avoided by those who had comfortable environments at home; now sentiment has changed in regard to general hospitals and every class nowadays is willing and often eager to secure the superior advantages of a well-equipped general hospital. It is not too much to hope that with the evolution in the character of hospitals for mental diseases there will come similar changes of sentiment towards them.

Following is given the table showing the forms of disease for which 11,755 patients were admitted to the hospital during the past sixty years:

	Previously reported.		1900-01.	
	M.	W.	M.	W.
Mania	2083	2032	2	..
" acute	160	185	5	15
" sub-acute	150	106	15	8
" chronic	72	106	7	9
" circulaire	2	1	..	..
" hysterical	1	6	..	..
" recurrent	42	73	1	4
" puerperal	..	40	..	4
" with epilepsy	10	6	..	1
" with alcoholism	8	1	3	..
Melancholia	1400	1731	24	28
" chronic	25	54	..	15
Dementia	1035	478	5	8
" with epilepsy	6	17	4	..
" with senile	39	40	6	3
Delirium	36	18	..	..
Imbecility	14	5	1	..
Monomania	740	449	..	..
Paresis	163	27	8	1
Not insane	3	....	..	..
Disease of nervous system and threatened insanity	13	10	..	..
Alcohol and opium habit	160	13	16	2

It will be noted that cases of mania constitute a very large proportion of the cases treated, amounting to over 4,100 patients, or more than 40 per cent. It will also be noted that the number of cases run about equal proportion between the two sexes with the exception of melancholia, in which 300 more women than men were admitted; dementia, in which more than double the num-

ber of men than women were admitted, the same being true of monomania, while in paresis the fact that this disease occurs in five men to once among women is again clearly shown. When it comes to the opium and alcohol habit the disproportion is still greater, being 13 women to 160 men.

The following table shows the duration of disease at the time of admission of these 11,755 patients during a period of sixty years:

	Previously reported.		1900-1901.		
	M.	W.	M.	W.	Total.
Not exceeding 3 months.....	2495	2459	28	35	5017
Between 3 and 6 months.....	569	564	16	13	1162
" 6 and 1 year.....	773	645	7	15	1440
" 1 and 2 years.....	832	824	5	16	1667
" 2 and 3 "	424	255	6	12	697
" 3 and 4 "	242	170	3	3	418
" 4 and 5 "	142	110	2	4	258
" 5 and 10 "	246	206	7	4	463
" 10 and 15 "	99	84	3	1	187
" 15 and 20 "	46	44	2	1	93
" 20 and 30 "	66	40	..	..	106
" 30 and 40 "	15	10	1	..	26
" 40 and 50 "	8	7	..	..	15
" 50 and 60 "	4	1	..	..	5
Congenital	13	1	1	..	15

It will be seen here that 50 per cent. of the cases were admitted when the disease was not yet three months old, and from this the percentage dwindled until it reaches the report of one case which had lasted between 55 and 60 years when it was admitted.

The following table shows the deaths and their causes for one year, from April, 1900, to April, 1901. It will be seen that the causes of death in these cases of insanity are due with the majority of cases to the form of the insanity, there being only one case of phthisis, one case of chronic interstitial nephritis, one case of hernia, and two of tuberculosis. The other causes are due more or less directly to the disease for which they were admitted.

Table showing causes of death from April, 1900, to April, 1901.

	M.	W.	Total.
Acute phthisis	1	.	1
Suicide	.	1	1
Apoplexy	.	1	1
Cerebral congestion and effusion.....	.	1	1
Cerebral hemorrhage	1	.	1
Chronic diseases of the brain.....	.	3	3
Chronic interstitial nephritis.....	1	.	1
Debility of old age.....	1	2	3
Exhaustion of chronic mental disease.....	3	.	3
" " acute mania	.	5	5
" " sub-acute mania.....	1	.	1
" " melancholia	.	1	1
Epileptic convulsions	1	.	1
Hernia of intestines.....	1	.	1
Paresis	7	1	8
Senile dementia	1	.	1
Tuberculosis	1	1	2

The next table shows the birthplace of these 11,755 patients.

Table showing the nativity of 11,755 patients.

Alabama	21	Maine	36
Austria	16	Maryland	340
Bermuda	3	Massachusetts	124
Barbadoes, W. I.....	4	Missouri	27
Brazil	2	Mississippi	19
Belgium	2	Michigan	10
Buenos Ayres.....	1	Martinique, W. I.....	1
British Honduras, C. A....	1	Mexico	2
Born at sea.....	2	New Jersey	504
Bavaria	5	North Carolina.....	90
Connecticut	58	New Hampshire.....	17
California	3	New York.....	408
Canada	29	Nova Scotia.....	4
Colombia, S. A.....	1	Norway	5
Cuba, W. I.....	27	New Brunswick, B. A....	1
Costa Rica.....	2	Ohio	94
China	1	Pennsylvania 6,335	
Ceylon	1	Peru	1
Delaware	299	Poland	10
District of Columbia.....	35	Prussia	18
Denmark	113	Rhode Island.....	25
England	7	Russia	8
Florida	8	South Carolina.....	70
France	33	Sicily	1
Georgia	45	Scotland	70
Germany	610	Switzerland	13
Guadaloupe	1	St. Domingo, W. I.....	4
Holland	6	St. Croix, W. I.....	1
Hungary	4	St. Thomas, W. I.....	3
Indiana	27	Spain	4
Indian Territory.....	2	Sweden	3
Iowa	4	St. Kitts, W. I.....	2
Illinois	25	Tennessee	38
Ireland 1,302		Texas	7
Isle of Madeira.....	1	Virginia	142
Isle of Man.....	1	Vermont	12
Italy	11	Venezuela, S. A.....	2
Jamaica, W. I.....	2	West Virginia.....	12
Japan	1	Wisconsin	8
Kansas	1	Wales	2
Kentucky	47	Unknown	369
Louisiana	46		

It will be noticed that over 6,000 of these cases come from Pennsylvania; this is due to the fact that the institution is Pennsylvanian. But it shows the wide source from which the other cases come. It is interesting to notice that 1,300 of the remaining cases were born in Ireland. Admitting the fact that there is a very large Irish population in the United States, it is interesting to note that the number of cases are more than double those that come from Germany, and must be remembered, too, that Pennsylvania has a very large German element.

The next table is the most interesting of all, for it gives in tabulated form the state of 11,312 patients who have been discharged or died during a period of sixty years and the form of disease for which they were admitted.

It will be seen that in mania out of a total of 4,200

| Previously Reported. | | |

patients nearly 2,300 recovered, 300 were much improved, 600 were improved, 450 remained stationary, and 500 died. This shows a percentage of recovery in 50 per cent. of cases of mania. In acute and subacute mania, even a better proportion of recovery exists, while in chronic and epileptic mania percentage of recovery is almost nothing.

In cases of melancholia out of 3,100 nearly 1,400 recovered, while in monomania 550, or about 50 per cent. of the 1,100 admitted, recovered. It is interesting to note that in a history covering sixty years in the treatment of paresis there is not the report of a single case of recovery.

THE LESSER KNOWN SIGNS AND SYMPTOMS OF AORTIC ANEURISM: WITH THEIR TREATMENT.

BY M. E. FITCH, M.D., PHILADELPHIA.

THIS subject is not as well known as it should be by the profession in general. Many of the signs of this condition are little known and easily overlooked. Of course in well-marked cases of aortic aneurism the diagnosis may be easy; in other cases it can only be discovered by careful search; in others it can only be suspected; while in some cases it must of necessity be overlooked.

The signs and symptoms are poorly adapted to division, as they may vary according to the seat and relations of the sac. The *symptoms* are produced not by the aneurism itself, but are due to the influence of the tumor upon surrounding tissues. It is true that a certain amount of pain may follow the growth of the sac wall itself, but this is less noticeable than the results in the vicinity.

Taking up the first of early symptoms we select the subject of *pain*. It is a misleading symptom, however, and must be carefully considered. It is a good working rule to think of aneurism of the aorta, in cases where obstinate or recurring pain appears which might seem to be due to pressure upon nerves or upon solid parts. Neuralgic, rheumatic, nervous or congestive are terms which have undoubtedly from time to time marked the pain of this condition. Aneurismal pain is paroxysmal, markedly so especially when the pressure is upon nervous tissue. When it is more or less constant, it is connected with the erosion of bone. But neither of these statements is always true, and it is better to assume that in both kinds of cases pain may or may not exist. By the temperament of the patient, this symptom may be overlooked, for there are people who bear pain manfully and pass it by in reticence, or are too much occupied. The use of potassium iodide in suspected aneurism is a good diagnostic factor here, for it gives relief and offers marked toleration for the drug.

Pain may be not only *a* symptom but *the* symptom, and often the only symptom, that can be relied on for diagnosis. The following are a series of cases which illustrate this symptom of pain in aortic aneurism: T. C., suffering from aneurism of the arch, apparently experienced a pain that at first was thought to be cardiac in character, and he had been advised to give up heavy work on this account. The pain was not over the aneurism, but in the cardiac region; it simulated angina pectoris, and was intermittent. On careful diet and regulation of movements the pain disappeared. In T. C. the pain was more constant, gnawing in character, such as is usually associated with bone disease. It was not so anginoid in character, excepting that it extended into the left side of the neck and down the left arm. Again the pain may be vaguely called a "stomach-ache," and referred to the abdomen.

On the other hand, the existence of pain, with inconclusive physical signs of aneurism, must not lead one into the opposite possibility of error in a too confident diagnosis of aneurism.

The next symptom of aneurism, especially thoracic in character, is cough and other respiratory symptoms. Cough is so common an accompaniment of all thoracic diseases that its existence may indicate nothing in particular. It is also so much more common in simple bronchitis, phthisis, influenza, etc., that its presence would scarcely suggest an aneurism. Patients have been treated for phthisis and died with their real condition unknown until revealed by the autopsy. Hence it is well to look closely for the small details which might suggest an aneurismal cough. Gairdner reports a most interesting case illustrating this point well. He states that a man entered his office complaining of a "cough" for which he wanted a prescription. He was a strong and apparently healthy man of middle age; he was a contractor and a very hard worker. Dr. Gairdner diagnosed the case from the physical signs as aneurism pressing on the left bronchus, involving the innervation of the left lung and a portion of the larynx. Dr. Gairdner did not tell his patient what he suspected, and as he did not expect to see him again thought he had better inform his friends. So he wrote to the man's attorneys in Edinburgh, having heard their names mentioned by the contractor. To the physician's surprise they wrote back suggesting that Mr. B.'s life be insured. The physician was staggered and backed out of such a scheme quickly. Some time later Dr. Gairdner read of the man's death from hemoptysis. Dr. Gairdner states that he has again and again made the diagnosis of aneurism, provisionally at least, by means of this group of symptoms, without any other means of diagnosis or especially of physical diagnosis at all. The aneurisms of the arch often involve the delicate nerve supply of the glottis and often press on the air passages so as to produce almost perfectly characteristic modifications of the respiratory and vocal phenomena represented by these parts, and the symptoms thus arising are not so hard to diagnose.

Gairdner describes a cough with unclosed or imperfectly closed glottis. The reason why this type of cough is so interesting is that, setting aside cases of rather advanced ulceration, it means paralysis of the abductors of the glottis to the extent of interfering with what is always the initiatory stage of a *normal* cough—the sudden liberation of the confined and compressed air, as by an explosion; the sharp, distinct intonation of which is easily recognized, because in perfectly normal conditions it is not only the first act of coughing but by far the most sonorous part of the whole; and, what is curious, the glottis may be paralyzed to the extent of giving quite a new character to this explosion, or of preventing it altogether, while it is not so paralyzed as to wholly intercept or even alter greatly the spoken voice. Wyllie gives this symptom the name of the "bovine cough," and explains it as follows:

"Whilst the true (vocal) cords are fitted, when brought together, to oppose the *entrance* of air, the false cords and ventricles of Morgagni constitute a valve, with cusp facing downwards, which is fitted, when the edges of the false cords are brought into apposition, to oppose the *exit* of air. The laryngoscope shows us that immediately when the least effort of straining is made, the false cords come together over the true and hide them from view. . . . If there were no false cords and ventricles of Morgagni the cough would not have this sudden explosive beginning. . . . Now, the cow has

such a cough. *It has no false cords or ventricles of Morgagni;* its cough is therefore a long, loud grunt or a wheeze, without a proper initiatory explosion."

On the other hand, the voice may be altered or even lost, and there may be noise or stridor of a peculiar character and only or chiefly during inspiration. This laryngeal stridor is easily distinguished by the ear from all other sounds generated lower down in the respiratory passages; he called it stridor from above laryngeal as contrasted with tarchial or bronchial noise in respiration. It occurs in croup and in laryngismus stridulus, and in aneurism.

The signs of an aneurism, aside from the symptoms, are tumor, expansive pulsation, thrill, bruit, and shock. Tumor is often absent, expansive pulsation is often impossible, thrill is uncertain; bruit is as often absent as present, while shock, either diastolic or systolic, is often absent.

There are a few signs of aortic aneurism which are the effect of its being a portion of the circulatory system and form a connecting link between symptoms due to the tumor itself and those due to the effect of the tumor on neighboring organs. Chief among these is the effect on the distal arteries. The interposition of a more or less elastic cavity between the heart and the periphery alters the blood supply of the latter. The original impulse of the ventricular systole is lost and hence the impact against the finger gives a feebleness which is graphically shown by the sphygmographic tracing of the arterial movement.

Let us now consider some of the lesser well-known symptoms of this condition when it is more developed. There are various signs which have been given the names of well-known observers, such as Schnell, Cardarelli, Glasgow, and Drummond.

The classical symptoms of aneurism are five in number, tumor, thrill, expansive pulsation, bruit, and shock. And yet one or all of these symptoms may be absent.

The tumor must of course always be present, but the aneurism, situated within the strong walls of the thorax, it is often impossible to detect it. It can be found more frequently when the aneurism affects the ascending or the transverse portion of the arch of the aorta than if it affects the descending portion or the abdominal aorta.

Again, the symptom of pulsation is somewhat misleading and the character of expansion can be determined in thoracic aneurisms only when the tumor is present. The sensation of pulsation from an aneurism gives a peculiar impression, yet it cannot be demonstrated until there is elevation above the surrounding tissues. Sometimes it is possible to detect pulsation in deep-seated aneurisms of the arch of the aorta by palpation downward in the epi-sternal notch, or by placing one hand between the scapulæ, the other in front of the chest on the sternum, pressing inward on expiration. It must be remembered that the movements of a palpating empyema suggest that of aneurism, although it can be differentiated by the history of the case, by the absence of other signs of aneurism, and by the demonstration of the existence within the pleura of liquid.

Thrill is one of the last signs of aortic aneurism to appear, even in tumors that are readily demonstrated, although it may be present without dilatation in cases of well-marked atheroma. Bruit is also a misleading symptom, and it must be particularly remembered that a false bruit can be developed with the stethoscope by heavy pressure. The symptom of shock, either disystolic or diastolic, is of value when present, but it must be remembered that the systolic shock is often not found, while the diastolic can only be demonstrated when the tumor is near the aortic valve leaflets.

Percussion affords a prominent means of diagnosis in aneurism of the thorax, for a large area of dulness in the region of the breastbone or on the left side of the spine should at once suggest the existence of aneurism, and yet this dulness may be caused by any mass which may be found within the thorax.

One observer has very aptly said that aneurisms of the ascending part of the aorta are the *aneurisms of signs*, while those of the descending aorta are the *aneurisms of symptoms.*

An aneurism pressing upon the pneumogastric nerve will produce attacks of vomiting and diarrhea, but if it presses upon the recurrent laryngeal branches that wind around the arch of the aorta will produce that peculiar character of the voice and the clanging metallic cough, which is the result of the paralysis of one of the vocal bands. Of course, these same symptoms may come from pressure by other growths, or from paralysis of one vocal band from other reasons. It would seem that the phrenic nerves should be more affected than they are, but their immunity comes undoubtedly from the fact that they rest in the soft cushion of the lungs.

Drummond's sign is elicited by placing the stethoscope over the manubrium. The patient is then ordered to take a full inspiration and to allow the air to escape slowly through one nostril; then a peculiar whiffing interruption of the breast sound is given to the air column by the aneurism.

The tracheal tug expresses the sensation which is due to the pressure of the tumor upon the left bronchus. If this exists the diagnosis of the case is not difficult, although it is not very frequently present, and Ewart reports that he has found slight degrees of tracheal tugging in a large number of healthy people.

Cardarelli's sign of lateral movement of the larynx is similar to that of the tracheal tug, and closely resembles it.

Scheele's sign is a dangerous one, but it is characteristic of many German observers that the diagnosis of the disease is to be preferred to the ultimate fate of the patient. This observer discovered that by pressing on the crural arteries of both sides at the same time it would produce severe pain in the aneurismal region with the disappearance for the time of the systolic murmur over the tumor and enlargement of the glands. It is a fair commentary on Scheele's three cases which he reported that two of them died of internal rupture shortly after submission to this treatment for diagnosis.

Perez' sign is a creaking sound developed on auscultation over the sternum in cases of anterior mediastinitis when the patient raises and lowers the arm from the shoulder. This observer attributes its occurrence to mediastinal adhesions caused by the existence of the aneurismal tumor.

Glasgow's sign consists in the presence of a distinct systolic tug in the bracheal artery similar to the discovered in aortic regurgitation. Undoubtedly both of these symptoms are unimportant.

The following case is a typical well-marked exhibition of abdominal aneurism. It is a man about 45 years of age, which has been called the aneurismal age, for at this time of life men as a rule are most likely to be at high pressure, and yet at the same time their vessels are not so able to withstand the pressure as when they were young. The man's family history has no bearing upon the case. He has always been himself fairly robust. He has never had much in the way of diseases excepting rheumatism and malaria. He has

always lived a temperate life and has never had syphilis. He has never been exposed much to the weather and in his trade, which is that of carpenter, his work was not especially hard. He has noticed that he had pain in the back for a few years which extended into his limbs, but it varied from time to time, although he noticed that it seemed to be worse after exertion and better after rest. It generally seemed to come on after he was through with his work, and would sometimes be so bad that it would force him to sit down or bend over to get relief.

On physical examination it was found that there was very decided pulsation, quite circumscribed in area, extending from the point of the ensiform cartilage downward three and a half inches, and nearly to the costal cartilages on each side, being more marked a little to the right of the median line. When he entered the hospital this pulsation was more marked than now. On palpation the impulse was felt to be decidedly expansile. The tumor was well-defined, rounded, even, and fixed, not moving with respiration. When the patient was placed in the knee-elbow position the pulsation persisted. A slight bruit is discernible over the tumor and there was no deformity, tenderness or pulsation discoverable in the patient's back. His heart is a little enlarged, the apex beat being extended downward and outward. On examining his arteries we find some evidences of thickening, and the pulse in his femoral arteries seems to be somewhat behind that of the radial pulse.

His general condition was rather poor; his digestion is bad, he is constipated and his urine is pale and acid.

It is well to remark at this point that it is easy to mistake the beat of an aorta through relaxed abdominal walls in this persons for an aneurism. In fact, this diagnosis is frequently made especially in women of a neurotic type, in whom the vascular tension is low, which produces a large pulse in a relaxed aorta.

When it comes to the question of the consideration of the treatment while as a rule it can only palliate the symptoms we should in all fairness to our patient remember that there are cases on record in which permanent cure has been obtained, and we should make efforts always in the direction of such happy results. The examination post mortemly of a cured aneurism shows that this has been done by the filling in of the sac with fibrinous matter and clot followed by the contraction of the sac. Undoubtedly the most important measure towards securing this result is the placing of the patient completely at rest. When we remember how many thousand heartbeats there is less per day we will see that the aneurismal sac is subjected just as many times less to pressure. There is only one way to obtain this rest and this is by placing the patient in bed away from all excitement, mental or physical. With many patients such a life becomes very irksome; in these cases as quiet a life as possible should be prescribed. Next to the question of rest comes the consideration of the food, the idea being to decrease the quantity of blood and make it more easily coagulable. Tufnell of Dublin suggested a diet which was simplicity itself, consisting of two ounces of bread and butter and two ounces of milk for breakfast; three ounces of meat, three of bread, and four of milk for dinner; and two of bread and two of milk for supper. In practice, however, such a diet as this will not work satisfactorily, besides we must remember that anemia tends to produce an irritable condition of the heart. Therefore it is well to allow a moderate supply of dry food, cutting the amount of liquid as low as possible. Of course the bowels should be kept well open to avoid any strain which would increase the arterial tension and the frequency of the heart beat.

Balfour has been the leading authority to popularize the use of the iodide of potassium in these cases. It answers many indications; it relieves the pain, which is often almost unbearable; slows the heart beat and reduces the arterial tensions, and it is believed by many also that this drug increases the coagulability of the blood. Balfour recommends that first of all the patient should be put to bed for a few days without medicine to find out his natural pulse rate. He then gives the iodide of potassium freely diluted in ten-grain doses three times a day. He recommends that the dose be increased as the pulse falls until it reaches about sixty a minute; if the drug is pushed beyond this point as a rule the pulse rises in frequency; therefore the dose should be kept at the amount at which the pulse is slowest. Should poisoning appear from the drug it should be intermitted for two or three days and then resumed.

There have been many other treatments suggested in aneurism with more or less success. One that has been used with some success is the application of graduated pressure for a few hours to the aorta. It has been used principally when the aneurism is situated low down, so that pressure could be made above the sac. This procedure requires the use of anesthetic. Unfortunately this pressure is apt to injure the bowel and may cause acute peritonitis, so it is not advised by the best authorities. In one case where death occurred six years later from another cause, the aneurism treated in this way was found to be obliterated. Macewen has devised a method of treatment by which the inner surface of the sac is gently needled so as to induce better nutrition of the wall of the aneurism and the gradual formation of white thrombi.

Galvano-puncture has been recommended in patients where the aneurism can be reached. Several feet of fine wire has been introduced into the sac on which the blood might coagulate and this has been combined with electrolysis. Horsehair has been inserted, astringent liquids have been injected, such as the tincture of the perchloride of iron, to promote coagulation.

Willard has recently reported a case of aneurism of traumatic origin which he treated by the introduction of wire and the use of electricity. It is of sufficient importance to be described in detail.

This case was a man aged twenty-three, who was injured in November, 1899, by a heavy box weighing 500 pounds, which fell two feet, hitting him on the chest. He was unable to work for six weeks, but at that time resumed his labor, complaining of a tightness and pain in the chest. He worked at intervals, though with difficulty, for six months, when the pain and pulsation of his chest, steadily increasing, disabled him. His cough became troublesome and the pain in his chest more severe. On examination it was found that there was a powerful distinct systolic uplifting over whole right thorax at each pulsation, most noticeable in the thin area at junction of third and fourth ribs with their cartilages. Slight thrill. Dulness on percussion and respiratory sounds practically absent over right lung.

The position of the tumor, the absence of pulsation in the neck and the character of the chest sounds indicated a traumatic lesion of the descending thoracic aorta. As his condition grew worse and rupture seemed imminent he consented to an operation. The only operation that seemed to offer any chance for success was the introduction into the sac of a certain quantity of wire as a framework, each coil of which might form a nucleus for coagulation, producing eddies in the sac and final con-

solidation. To facilitate coagulation upon and around this wire framework the coagulating power of galvanism was brought to bear. In this operation of wiring it is essential that strict asepsis be secured, for sepsis and faulty technique are the most common causes of death. Dr. Willard's description of his operation is given in his own words:

"In order to protect the skin and subcutaneous tissues external to the wall of the sac from the destructive effects of the electrical current, a vulcanite canula (size No. 7, French catheter scale) was constructed with a steel trocar (size No. 4, French catheter scale). The thickness of the vulcanite made the introduction difficult, requiring a slight nick of the skin with a scalpel. (A veterinary hypodermic needle, three inches long, and of calibre of 24, is better. It can be insulated by several coats of shellac varnish, best French lacquer set by heat, or by a porcelain coating.) The trocar was introduced in the fourth interspace, the thinnest point of the sac, just outside the costal cartilage, and was driven well into the sac. Upon the removal of the trocar a current of blood spouted three feet into the air at each pulsation of the heart, which, owing to the size of the canula, made the loss of blood quite serious. It was, however, controlled by the finger until the wire was threaded in. Gold wire No. 35 had been procured, but proved entirely too fine, as it would not thread through the canula without crinkling, and I was obliged to resort to silver wire No. 24. After six or eight feet had been inserted, the wire was connected with the copper conducting cord of the positive pole of a galvanic battery. The current was supplied by the electric lighting plant of the hospital, reduced by a current controller. A chloride of silver dry-cell battery does well. The negative pole was attached to a large, flat electrode sponge-covered pad, placed between the scapulæ. Five milliamperes were turned on at first, and the force of the current was increased by fives, the patient perceiving plainly each addition, and complaining of pain chiefly in his back, especially when new pieces of wire were connected. More wire was threaded in through the cannula until about twenty feet of coils were inserted. The strength of the current was increased until, during the last fifteen minutes of the hour, eighty milliamperes were measured; eighty-five only for a moment. In my judgment, the current used was too strong, and if equally good coagulation will take place under one of moderate strength, the danger of burning the walls of the sac is lessened. Finney obtained his results with only ten to twenty milliamperes. Coagulation of the blood in the cannula took place very soon after the current was applied, preventing further hemorrhage, and, on withdrawal of the cannula, the wires having been pushed in as far as possible, there was no hemorrhage. The opening was closed with gauze and aristolated collodion, and the patient confined rigidly to bed. Aside from the first shock at the sight of the spouting blood, the patient suffered no serious inconvenience, save for the pain in the back, at the negative electrode, and talked cheerfully throughout the operation. He slept the greater part of the night, the next day was much better, and in five or six days was anxious to sit up, although he was not permitted to do so. The only burns were at two areas, of the size of peas, upon the back. The cathodal negative pad should have been of larger size. In a week he could with difficulty be restrained in bed; was eating and sleeping well; had no pain; was able to stop the use of morphia, and had much less oppression. The pulsation in the thorax was lessened at the end of the operation; was still less on the following day, and in a week was diminished at least 25 per cent. His statement is that he is 'twice as good as before operation.' The original point of thinning anteriorly is much more solid, but laterally below the axilla the pulsation is slightly increasing, and will probably require a repetition of the operation.

"In the third week a dilatation of the sac outward into the axilla gave torturing pains in right arm for two days, but this pain was speedily relieved, although the pulsation in axillary region has increased, and I propose to repeat the operation. His sac may be multilocular, or the coagulum in one district may have altered the direction of the blood current, causing dilatation of a new area. Nine weeks after the operation the man was so well that he could not be restrained, and he left the hospital in spite of my earnest protest. Good consolidation of the anterior portion of the sac at the seat of operation was positive."

The patient took no care of himself and died five months later, but the original aneurism remained intact, although a dissecting sac eroded in another direction.

HYSTERIA IN CHILDREN.

BY WILLIAM WORMLEY, M.D., PHILADELPHIA.

ALTHOUGH the word hysteria is still retained in modern medicine, the term confesses the original erroneous ideas of the pathology. For it no longer is confined to the idea of uterine influence, but may exist in either sex at any age of life. It is true that it appears more frequently among women than in men, and in comparison it is rare in early and in late life. Undoubtedly the nervous system is less susceptible and less receptive at these times. According to Lloyd, hysteria is most commonly seen in women at the age of twenty years, while Briquet found one-fifth of the cases he examined in the female sex occurring at about the time of puberty.

There is no doubt that the hysterical manifestation in children have not been regarded in their true light by the profession at large. It is sometimes difficult and doubtful to diagnose this condition; for hysterical children frequently possess far more cunning than they are given credit for, and can conceal their real condition in a surprising way. Perhaps the most remarkable historical series of cases in this connection are those which broke out near the end of the seventeenth century in the vicinity of Salem and Boston, Mass., which resulted in the death of a number of innocent old women, under the most shocking circumstances, based upon the accusation of a number of children. The results produced by these children were so remarkable that they will bear quotation in reference to one case, which is a fair sample of the others:

In 1688 an Irish woman named Glover was executed in Boston for bewitching four children belonging to the family of Mr. Goodwin. One of the children would complain that the old Irish woman had tied an invisible noose around her neck, and was choking her; then her complexion and features would instantly assume the various hues and violent distortions natural to a person in such a predicament. She would declare that an invisible chain was fastened to one of her limbs and would limp about precisely as though it were a real case. After a number of such manifestations, Cotton Mather took her into his own family, to see whether he could not exorcise her. His account of her conduct while there is highly amusing for its credulous simplicity. The cunning and ingenious child seemed to have taken great

delight in perplexing and playing off her tricks on the learned man. Once he wished to say something in her presence to a third person; he accordingly spoke in Latin. She had penetration enough, however, to conjecture what he had said; he then tried Greek; she was equally successful. He next spoke in Hebrew; she detected the meaning. At last he resorted to the Indian language; and that she pretended to know. He drew the conclusion that the evil being with whom she was in compact was acquainted familiarly with Greek, Latin and Hebrew, but not with the Indian tongue.

It is curious to notice how adroitly she fell into the line of his prejudices. He handed her a book written by a Quaker, to which sect it is well known he was violently opposed. She would read it off with great ease, rapidity and pleasure. A book written against the Quakers, she could not read at all. She could read Popist books, but could not decipher a syllable of the Assembly's Catechism. Dr. Mather was earnestly opposed to the order and liturgy of the Church of England, so the artful little girl played with great success on his prejudices. For she pretended to be very fond of the Book of Common Prayer, and called it her Bible. All these things went far to strengthen the conviction of Dr. Mather that she was in league with the devil; for this was the only explanation that could be given to satisfy his mind of her partiality to the productions of Quakers, Catholics and Episcopalians and her inability to read his version of the Bible and the Catechism. She exhibited the most exquisite ingenuity in flattering Dr. Mather. He thus describes with the complacency, but thinly concealed under the veil of affected modesty, the part she played which gave the impression that the devil stood in special fear of his presence:

"There then stood open the study of one belonging to the family, into which, entering, she stood immediately on her feet and cried out: 'They are gone! They are gone! They say that they cannot ——. God won't let them come here.' Adding a reason for it, which the owner of the study thought more kind than true; and she presently and perfectly came to herself, so that her whole discourse and carriage was altered into the greatest measure of sobriety."

Cotton Mather published an account of this case, and Richard Baxter wrote the preface to an edition in London. It is believed by historians that this account originated the delusion of Salem, and it is undoubtedly true that the children of Salem undertook to re-enact a part which ended in such terrible tragedy.

A case along the same line occurred some years ago in the writer's experience. A little girl ten years of age refused to say her prayers on going to bed, because, she told her mother, she had been terribly wicked that day. The child went off into paroxysm of sobbing and it was only by the greatest effort that the mother was able to force her to tell what she had done. The little girl finally confessed that she had choked a little pet kitten to death during the day, and she was afraid, in consequence, to go to bed. The mother was horrified to hear of her child doing such a thing, but the little girl's remorse was so great that she was not chided much. Finally, the child quieted down, and was about to go to bed, when suddenly she burst into a worse attack of crying than before. Her mother, now thoroughly alarmed, demanded to know the fresh cause of the outbreak. The little girl, between her sobs, explained that she had done something much worse than this; that while her mother might forgive her for killing the kitten, she could not forgive her for this later deed. After much pressing and having worked herself into a perfect frenzy, the child said: "Mother, I've lied; I didn't do it at all." Certainly the mind of such a child must be in a very curious condition.

Hysteria in children frequently does not show all the classical picture, the anesthesia, palsy, convulsion and reversal of the visual fields. It is sometimes dangerous and practically impossible to diagnose the hysteric from the epileptic fit; again, hysteria and epilepsy may be found in the same patient.

Burr believes in differentiating hysteria from pure emotionalism; hysteria, he believes, is too much used as an intellectual pigeonhole for all dramatic and remarkable manifestations of disease, the clinician being satisfied when he has given an illness a name and forgetting that hysteria has as definite a history as nervous syphilis or pulmonary tuberculosis. Many children will do very remarkable things and relate strange tales to get what they want, or to be petted and spoiled, but Burr does not regard this as hysteria, but pure mendacity; again, this authority thinks that it is difficult frequently in genuine hysteria to separate the real from the pretended in the symptomatology, for hysteric children are often precocious, extremely susceptible to suggestion and very helpful in aiding the physician in finding the symptom he is searching for. Burr has more than once examined a child for anesthesia and failed to find it until the patient discovers what is wanted.

Organic brain disease is often accompanied by hysteria, especially tumor of the brain; hence the clinician must remember this point in examining his hysterical patient. Along a similar line is the case reported by De Schweinitz, which had all the symptoms of hysteria and was believed to be hysterical until an ophthalmoscopic examination revealed extensive optic neuritis. The patient subsequently died, and at the autopsy well-marked basillar meningitis was found.

It is well known that hysteria is often combined with chorea, or a general or a local chorea may be produced by hysteria. In these cases it is often hard to decide whether the true choreic neurosis is the basal condition or whether it depends upon a hysterical neurosis, so that it is doubtful which is correct to speak of a patient suffering from hysterical chorea or from choreic hysteria.

The French writers have given the name "electric chorea" to a form which occurs in hysteria, in which peculiar brusque, rapid muscular contractions are observed. The whole body or a portion of it may be the seat of violent muscular spasms similar to those produced by sudden strong electric shock. The choreic movements in hysteria are very apt to take the form of rhythmical movements, and the vibrations may become very rapid.

A typical case of hysteria in a child is the following one: A school girl ten years of age was examined; there was a history that a month before she had been very much frightened by a sudden shock. That night her left hand and arm began to shake, but there was no convulsion, and she did not lose consciousness. Within a day or two rapid movements appeared, and she lost consciousness apparently; but after these attacks the child seemed to be all right and as bright as usual in its intellect. These attacks had continued for so long a time that she was brought to the hospital for examination. She was well-nourished, her heart sounds were good, her gait and station were correct, and her family history was good. She seemed to have less sensation in the left hand than in the right, although there is some doubt as to the truth of this assertion. She displayed a great deal of emotional mobility and suffered a good deal from headache; she was irritable

and cried upon the least provocation. Her appetite, digestion and sleep were fairly good, and her bowels were regular. Under a tonic supportive treatment, with plenty of fresh air and exercise and with the threat that if she did not get well she would be put to bed in one of the wards, she subsequently recovered her usual health.

If we look upon hysteria as a nutritional change in the cellular tissues of the central nervous system in consequence of which there may result alterations in function and changes in relation, it is to be hoped that the day will come when by the refinement in staining methods it may be possible to detect these changes in the nerve cells, which at present baffle all investigators.

It is well to remember, especially in medico-legal cases, that the testimony of children, especially when they are inclined to be hysterical, may not only be of no value, but actually misleading. Undoubtedly much harm has been done in the past by the fanciful testimony of hysterical children.

THE MANAGEMENT OF THE PUERPERAL STATE.

BY R. O. TUCKER, M.D., NASHVILLE, TENN.

THE puerperal state commences with the delivery of the placenta, and continues until the generative organs return by involution to their normal condition, before the advent of pregnancy. The time consumed in this process varies with each individual, usually being complete in six to twelve weeks. Strictly speaking, this retrograde metamorphosis that is taking place is physiological, yet it borders upon the pathological so closely that the least variation may cause an overstepping of the normal, and a pathological condition is brought about.

The condition is distinctly surgical. The oozing surface from which the placenta is detached, the various lesions of the vaginal canal and orifice, which may be minute or great, present surfaces through which septic germs may gain entrance. These minute lesions are the more dangerous from the fact that the edges of the wound or abrasion cannot be brought together in such manner that only healthy, undenuded surfaces are exposed.

While it is a surgical condition the puerperal woman cannot be treated as an ordinary surgical case, for the uterus throws off from the beginning of the puerperium the lochial discharge which bathes the vagina with its various lesions. As a consequence, we do not have the ideal surgical condition. In addition to other things, drainage must be provided for. All lacerations of any size should be closed, and no case is well cared for when an ocular examination has not been made. It is the eye only that can find the lacerations. If a man fails to find them in his practice it is because he does not look for them. After reparation of these injuries the woman is ready for her first toilet. The nurse, with aseptic hands, is instructed to wash the external genitals, thighs, and other portions of the body that have become soiled, with warm water and green soap. This is washed off with sterile water or a saturated boric acid solution. This is done with least discomfort to the woman and a minimum amount of labor on the part of the nurse if the patient is placed on a Kelley pad. After wiping her dry with sterile gauze or strips, and all soiled bedclothes and garments are removed, the abdominal binder should be placed in position. If compresses are used underneath it, they should be placed in small rolls, one on each side, and the third one above the fundus of the uterus. A pad or compress should not be placed immediately over the uterus, for it tends to cause a retroversion of that organ. The binder, properly applied, is a source of great comfort to the recently delivered woman, as it acts as a support to the flabby abdominal muscles. The binder being in place, the vagina is closed by an aseptic occlusion pad. This is best made of sterile gauze and sterile absorbent cotton. For the first twenty-four hours these pads should be changed every three or four hours, or oftener, if the case demands. After the second day, four a day will usually suffice.

No vaginal douche should be used after a normal labor unless a septic or infectious condition of the birth canal is suspected. The normal, healthy vagina is able to take care of itself, and the less it is meddled with during this period the better results the physician will have. The uterus is sterile, and the acid secretions of the vagina are germicidal. A douche, under these conditions, will leave the vagina in such a shape that it will more readily absorb disease germs than before its use. The occlusion pad shuts the door of the entrance of the germ. As each fresh pad is used the nurse should be instructed to separate the labia with aseptic fingers, and the parts cleansed with a stream of saturated boric acid solution from a fountain syringe, or squeezed from a wad of absorbent cotton.

The physician or nurse should not touch the genitals of the woman under any circumstances except with aseptic fingers. The woman should be instructed also not to touch her parts, as by scratching or attempting to fix the occlusion pad in place I have seen one case of septic infection caused by the woman handling her genitals.

The first desire of the recently delivered woman, after her toilet is complete is to rest and sleep. If the uterus be well contracted and all danger from hemorrhage has passed this should be allowed. For this purpose the room should be darkened and the baby removed to another room, and no one permitted to come in the room until a refreshing sleep be had. It is routine practice with some to administer an opiate at the time to get this result. This is not indicated except in those cases where the labor is tedious and the woman exhausted.

The lying-in room should be bright, one where the sunshine can enter during the morning hours preferable. It should be so arranged that it can be darkened when the woman desires to sleep or rest.

For the first few days visitors should be limited to very near relatives, and they should only be allowed singly. The room should not be made a meeting-place for gossip of the neighborhood, or women who gather through curiosity to see the baby and compare it with others, or to see if it favors its father or some other man. Only a cheerful visitor should be admitted. The one with the woeful countenance, and the one that tells about Mrs. So-and-So dying, or being very sick under like circumstances, should be absolutely prohibited. The necessity for these strict measures we have all seen, when, from worry or excitement, we find the temperature increased three or four degrees from the most trivial causes. As a rule, the exacerbation is temporary, the pulse and temperature sinking to normal in a few hours, but it shows how slight external impressions react on the puerperal woman. The room, in addition to being well lighted, should be well ventilated, an open fire-place being one of the best ventilators. This open fire-place serves also as a place to destroy soiled dressing. They should be burned as soon as removed.

The diet in each puerperal woman should vary in each individual case. Since the old idea of puerperal fever has been exploded by the microscope, the dread of inflammatory conditions has disappeared; along with its

disappearance the rigorous antiphlogistic measures disappeared. From cracker and tea the redound was, in some cases, to the dinner pail of the field hand. The woman's desire for food is a good criterion by which we can be governed. As a rule she is not hungry. A cup of tea, warm broth, or milk, is all she wishes. If this is so, don't force her to eat the more substantial food, consisting of potatoes, meat, etc. On the other hand, a woman is frequently found who, from the moment of delivery, is very hungry, and craves solid, substantial food. There can be no good reason why it should be withheld.

Occasionally, more often in primiparous women, the urine cannot be voided while in the recumbent position. The bladder becomes distended and gives great pain and annoyance to the patient. The applications of a hot, wet, sterile cloth over the parts will often cause micturition. If this fails the woman can be raised or propped in a semi-recumbent position on the bed-pan, and she will be able, in most instances, to empty the bladder. Sometimes these means fail, and we are compelled to resort to the catheter. This should always be done by sight and not under cover. Before introducing it the instrument should be sterilized, the parts made perfectly clean with a saturated boric acid solution. If any of the details are neglected the probabilities are good for an acute cystitis. The objection to the use of the catheter is that when it is commenced its use must be kept up, as a rule, for several days. When used at all it should be used about every eight hours. In all cases the woman should be told not to wait for the desire, but to try to void her urine in five or six hours after labor, as the muscles of the organ are more or less paralyzed and do not respond to the stimulus as readily as before.

After-pains often require treatment, as they prevent the parturient woman from resting. For this purpose the time-honored pill of opium and camphor cannot be excelled. If proper care has been taken to secure good uterine contraction, the after-pains, as a rule, will need but little treatment. To promote this, thirty minims of fluid extract of ergot, or a dram of the fluid extract of cotton root can be given.

About the third day the bowels should be moved. Notwithstanding its disagreeable qualities, the classic dose of castor oil is about as good as we can do. If the woman is not to nurse the infant a saline is better. The bowels, after the third day, should be moved every day. When this is disregarded oftentimes the patient will have fever, headache, and an increased pulse-rate, causing the physician to feel uncomfortable for fear of septic infection. The fever in these cases is due to auto-infection from the intestinal tract, and subsides as soon as it is unloaded. A saline in this condition acts admirably.

All agree that it is important, both in the interests of the mother and the child, to nurse the breast. Parvin says that the prevalence of wet nursing is a proof of a nation's decline. The child should be put to the breast about eight to twelve hours after birth. The old rule of placing the baby to the breast as soon as the woman's toilet is finished worries her, prevents her resting, of which she is so greatly in need. It should be given to only one breast during each nursing, thus giving a maximum amount of time for the nipple to rest. The child should not be allowed to go to sleep with the nipple in its mouth, as it will become soft, sobby, and excoriated, opening entrances for septic germs and subsequent inflammation of the breast. Before and after such nursing the nipple should be bathed with a saturated solution of boric acid. If the nipples are hard and tend to crack they should be anointed with sterile cocoa butter. If cracks have made their appearance they should be painted with a solution of nitrate of silver, 20 grains to the ounce.

The question is always asked the physician when the puerperal woman will be permitted to sit up and get out of bed. Every woman is a law unto herself in this regard. No ironclad rule can be laid down, as a strong, healthy woman, with an easy labor, can get out of bed to have her bedclothes turned much earlier than a weak, delicate woman who has gone through a tedious and exhausting labor. As a rule, the parturient woman can be propped up in bed the second day following the delivery, to eat her meals, the change of position refreshing her and at the same time promoting free drainage of the lochial discharge.

She should be kept in bed until the soreness or feeling of tenderness in the pelvic region has disappeared, and all lacerations about the birth tract have healed. She can, as a rule, get out of bed and go about the room in perfect safety at the end of a fortnight. She should not be allowed to walk up and down a stairway under a month's time, and for the first six weeks the lifting of weights or reaching the arms above the head to hang pictures or garments on the wall should be avoided, as any overexertion may cause the heavy uterus to become displaced, becoming a source of distress to the woman and a feast to our brother, the gynecologist.

POINTS FROM A SURGEON'S NOTEBOOK.

REPORTED BY A. G. ELLIS, M.D., PHILADELPHIA.

SOME INTERESTING PHASES OF APPENDICITIS.

(1) *Operating in Recurrent Appendicitis.*—One of the problems which surgical science has not yet settled is the question of the time to operate in cases of recurring appendicitis. On the one hand there has been a group of the so-called conservative surgeons who feel that under ordinary circumstances it is better to decline to interfere during the intervals of the attacks, and that the time to operate is when the patient has a fresh attack causing danger to life or if there be an abscess. On the other hand there is a group of surgeons who, believing that appendicitis will reoccur, think it is better to operate when conditions are most favorable to success, which naturally is in the period between the attacks.

Professor Goodell always began any explanation of treatment to his students by saying that there were no "hard and fast rules" in surgery or in medicine. This is undoubtedly true in appendicitis, for each case should be judged upon its own merits. The following case is doubtedly one in which all authorities will agree it is better to operate on between the attacks. This woman had four attacks of appendicitis within a period of twenty months, each attack occurring with increased severity and with shorter time between them. Following the last attack the patient was admitted to the hospital with a hard mass on the right side in the region of the appendix. This induration was at what is called "McBurney's point"; that is, a point two inches from the anterior superior spinous process of the ilium in the direction of a line drawn from that process to the umbilicus. This woman has recovered from each attack without surgical interference, but on account of the increasing severity of the attacks it is thought best to operate on her at once. The details of the operation are as follows: If the operator is certain that there is an abscess, it is far better to make an incision over it, but if the presence of the pus has not been determined it is better to follow the linea semilunaris, or make the operation even further out on account of the drainage. In this case the incision was curved a little outward towards the flank, while a portion of it went down over the induration. A

large external wound was made and the various layers carefully dissected and all bleeding vessels in the muscular wall were tied as they were met. The edges of the incision were held apart by retractors in the hands of the assistants. The abdomen having been opened, the appendix vermiformis was readily found, enlarged, indurated and bound down by adhesions. It was tied down with a strong silk ligature and cut off. The intestines were kept warm by means of a towel wrung out of hot distilled water to prevent shock. Convalescence was rapid and the patient left the hospital some twenty days after the operation.

It is well to remember that a physician takes as great a responsibility if he urges an operation as if he opposes it, and that cases of appendicitis often get well and stay well without any operation. It is undoubtedly cases of early fixation of the body and belly muscles and without much temperature disturbance which show more of a necessity for operation than those in which the pain is greater, more continuous and more severe on pressure. Richardson and Brewster have published their personal experience covering 756 cases of appendicitis, including 150 consecutive cases operated on "in the interval." They believe that as a result of their experience if the operation is done in the interval the death rate is less than 3 per cent. Personally they have operated on 151 cases since August, 1894, without a single death; although they acknowledge that the question of operative interference is not so simple as it appears.

(2.) *Appendicitis in Children.*—The interesting problem of the occurrence of appendicitis in children is one that always confronts the general practitioner, for children are peculiarly prone to have attacks of vomiting, diarrhea and abdominal pain from the disturbances produced by the ingestion of improper food or faulty digestion. Again, hysteria has simulated the appearance of appendicitis in children. Talamon relates the case of a boy aged only eight years who had several nocturnal attacks simulating appendicitis, but in whom there were associated other prominent hysterical symptoms. He cured these attacks by forcible suggestion and the threat of laparotomy. Hutchison and Griffith have reported cases of appendicitis occurring in children as young as two years old. The difficulty of early diagnosis in such young children is very great, but it is well for the practitioner to bear in mind the possibility of such an occurrence.

(3.) *Appendicitis Occurring in Women.*—The difficulties of diagnosis of appendicitis are accentuated in cases occurring in women. Fisher relates a number of cases in which not only was the appendix diseased, but likewise the right uterine appendage. It would be hard to say whether or not the disease had begun in the appendix or in the uterine appendage first. Again, he reports a case in which there had been a diagnosis made of a rupture of an appendicular abscess, when, on the contrary, after opening the abdomen the appendix was found to be perfectly normal, but the ovary on that side was found to be diseased and an abscess in it had been ruptured. Again, in another case a woman had been operated on for appendicitis and had had her appendix removed, the diagnosis being that of catarrhal appendicitis. But the patient suffered subsequently exactly as she had suffered previous to the operation, and falling under Dr. Fisher's care he diagnosed a pustule on the right side, opened the abdomen, removed it and the symptoms subsided.

Again, appendicitis may complicate pregnancy and the puerperal period. Marx in his report of five cases considers that it occurs with greater frequency than has heretofore been thought. He believes that the enormous congestion of the entire vulvo-vagino-uterine tract which is reflected upon the intestinal system, causing plethora, torpor of the gut with marked constipation, is an active cause of appendicitis. The gravity of appendicitis is undoubtedly increased when complicated by pregnancy. And again, pregnancy may set up acute trouble in a quiescent but previously inflamed appendix. In 45 cases reported of appendicitis complicating pregnancy it is found that 30 were operated upon, giving a maternal mortality of 33 per cent., and an infantile mortality of 36 per cent. Fifteen cases were not operated upon at all; of these two mothers died, leaving a mortality of 13 per cent. Norris believes that operations should be undertaken earlier than even in cases where pregnancy does not occur.

(4.) *What is Found in the Diseased Appendix.*—In an interesting study of 114 cases ending fatally, Mitchell states that professional opinion has gone to the extreme in believing that foreign bodies aside from fecal concretions are not found in the appendix, for in these cases he found that 7 per cent. contain genuine foreign bodies, the character of which was extremely varied and interesting. Pilliet, in an interesting study, shows that the histological characteristic of non-calculous appendicitis is the disappearance of the secreting glands of the appendix through strangulation of the lymphatic tissues; but in calculous appendicitis the glands of Lieberkuhn are preserved and often hypertrophied, and he believes that it is a mucous secretion that leads to the production of calculi.

Dieuflafoy believes that the closure of the appendicular canal forming an infectious sac practically constitutes appendicitis. From his experimental work he believes that appendicitis is not only infectious, but equally toxic. He found that animals inoculated with sterilized cultures made from a closed cavity of appendicitis for the most part died of intoxication; whereas, sterilized cultures from the opened part of the appendix seemed to be comparatively harmless. This authority regards the appearance of jaundice in the course of appendicitis as of great prognostic value. When jaundice results from intoxication the taint is light, and appears on the first day of the disease, but when it is consecutive to infection it appears later and is far more apt to be mortal.

Kümmel in a careful study of 104 cases of relapsing appendicitis operated on in the interval without mortality states that he has not found that in any case had the appendix returned to its normal condition; nor does he believe that the clinical symptoms are by any means a sure index of the stage of variety of inflammation.

(5.) *Care of Patients After the Operation for Appendicitis.*—The best division in considering this subject is to separate the cases of appendicitis into four groups: (*a*) When the abscess is open either with or without the appendix and the general cavity of the peritoneum is not invaded. In these cases there is usually some ounces of pus and there is a history of the patient having been sick for days or even weeks. The abscess is near the surface and the anterior abdominal wall forms the anterior wall of the abscess, but the pus is prevented from getting into the general peritoneal cavity by the adhesion between the intestines. If the abscess can be opened without rupturing the adhesions which protect the peritoneal cavity the patient will recover surely. The treatment consists of perfect rest in bed with no food at all for twenty-four hours, and with a limited quantity of water. If no signs of peritonitis have developed by this time, the patient can take liquid diet and larger quantities of water. By the third day he can take ordinary diet such as soft-boiled eggs, dry toast, stewed chicken, etc. The soiled dressing should be removed twice daily,

but it is not advisable to syringe out the cavity. The stitches may be removed from the seventh to the ninth day; the drainage tube may be shortened by that time and removed from the fifteenth to the twentieth day. There is no hurry about opening the bowels and under no circumstances is it advisable to purge for several days. If the bowels are not opened by the fourth day without aid, an injection is generally all that is necessary. To prevent rupture the wound should be strongly supported from the first by a rubber plaster fitted with tapes.

(*b*) When the operation is performed between the attacks and no pus is present everything is supposed to be aseptic and the abdomen is tightly closed without drainage. Again, no food should be given the first day and only a little water, which should be given hot at first, a tablespoonful every hour to prevent ether vomiting; no ice should be given as it favors gas in the intestines. The reason for limiting the quantity of water is that the patient may be thirsty enough to cause absorption of any fluid thrown out into the abdominal cavity, as fluid there favors the growth and distribution of septic germs. If no abdominal distention occurs and wind passes by the bowels in from 20 to 30 hours, general septic peritonitis will probably not occur.

(*c*) Where the general cavity of the peritoneum is opened and the abscess empty, the majority of cases of acute appendicitis come under this class. The appendix is usually removed, although the after treatment is the same if it is removed or not. Here the case is left with a large quantity of gauze in the abdomen surrounding the field of operation. A corner of each piece of gauze is left protruding from the wound and one or two rubber drains pass through the center of the gauze to the most infected part.

The wound has been closed by the interrupted suture and the stitch next the drains has been tied in a bow knot so that it can be temporarily loosened to remove the gauze if necessary. Perfect rest on the back is insisted on, even more rigidly than in the other classes, as the adhesions protecting the abdominal cavity have yet to form. Each day the gauze on the surface of the wound is removed, the surface cleansed and gauze reapplied. On the third day, if there are two rubber drains, the one that is doing the least work is removed and a corner of the protruding gauze is gently drawn upon and whatever portion comes out readily is removed, and each day another attempt is made. By the fifth day it usually all comes away, though it occasionally is delayed until the seventh or eighth day. There is no occasion to give the patient much pain in removing it, for if it does not come readily one day it will come the next.

The surface of the abdomen around the wound is cleansed daily with a gauze sponge damp with some antiseptic, and a fresh gauze dressing applied, but no injection of any kind is employed in the interior of the wound, and when the gauze is removed it is not repacked. The objection to injecting re-packing or other manipulation in the interior of the wound is that in this class the general peritoneal cavity is protected by adhesions between the intestines. These adhesions form outside the first gauze packing, but as they did not begin to form until after the operation they have but little strength for several days.

In order to avoid rupture the wound is strongly supported by a rubber plaster on each side joined by tapes across the wound. The gaping part around the drain should also be strongly drawn in the same manner, after the wound has cast off its sloughs and this is usually done by the eighth or tenth day. It is an error to remove the drain too soon, but from this time it may be shortened daily and entirely removed in from the fifteenth to the twentieth day.

(*d*) When general septic peritonitis has occurred before the time of the operation, the abdomen should be opened, the adhesions broken down, the appendix removed, the abdominal cavity freely flushed, counter-openings made and drains of all kinds liberally introduced. There is no objection to frequent flushings through the drains; in fact, much of the success in this class of patients is due to thorough irrigations. The gauze from the surface into which the drains empty should be removed several times daily. Small and repeated doses of calomel should be given to keep up the peristaltic action of the bowels, preventing over-distention and the resulting obstruction. The rectal tube should be introduced every three hours and retained about half an hour every time. In introducing it it should be rotated until the odor of escaping gas is detected. Nourishing enema can be administered, but under any form of treatment the mortality in this class of cases is very high.

BULLOUS URTICARIA.*

BY P. F. BARBOUR, M.D.,

Professor of Diseases of Children, etc., in the Hospital College of Medicine, Louisville, Ky.

I WAS called to see a little girl, three years of age. The mother said that the child had broken out with an enormous blister, and on uncovering the buttocks I found there was a blister upon one buttock, that must have been four inches in length and one inch in width. The skin around this was slightly reddened and elevated. It looked very much as if the child had been burned and that a blister had resulted; but the mother assured me that there had been at no time any irritating substance, chemical or thermal, applied to the child's kin, that a day or so previous she had noticed small blisters on the child's buttocks, which had disappeared in a few hours. She showed me the spot where the blister had been, which was represented by a small brown patch. It did not itch.

As well as I could make out from my examination, it was that unusual form of skin trouble known as bullous urticaria. I learned the next day that this large blister had entirely disappeared, and that the child had gone on to a rapid recovery.

I report the case because, while I have seen a good many cases of various skin diseases in children, I had never seen one of this kind. This child was subject to urticaria, and had eaten a day or two previous to this attack some very indigestible food.

Dr. William Bailey: I would like to make an inquiry about the disappearance of the blister mentioned. It seems from the statement of the reporter that it disappeared almost at once. It seems to me that the cuticle elevated in this way by a blister, it must have remained open for some time after the fluid was discharged. I cannot see how a blister three or four inches long filled with serum could be absorbed or discharged and a normal condition of the epithelium maintained. It seems to me there would be separation, as we see after application of a fly blister. There would be death of the epithelium simply by the effusion under it. In this case it would seem that the fluid had been absorbed, immediately leaving the skin normal.

Dr. P. F. Barbour: I did not see the blister rupture, but the skin seemed to be normal over it. What I could not understand was the cause of the manifestation, unless it was due to an intense urticaria.

*Reported to the Louisville Clinical Soicty.

The Medical Times.

A MONTHLY JOURNAL

OF

Medicine, Surgery, and Collateral Sciences.

EDITORS:

EGBERT GUERNSEY, M.D., LL.D. ALFRED KIMBALL HILLS, M.D.

Communications should be addressed to the MEDICAL TIMES, 180 West Fifty-ninth Street, Central Park South.

Published on the first of each month by The Medical Times Company, 180 West 59th St., New York.

Changes of standing advertisements and communications in regard to that department, should be addressed to the Advertising Manager, BENJ. LILLARD, 108 Fulton St., New York.

NEW YORK, NOVEMBER, 1901.

"Humanity unceasingly moves forward from a lower, more partial and obscure understanding of life, to one more general, more lucid." TOLSTOI.

THE BRITISH ASSOCIATION OF SCIENCE.

THE annual meeting of the British Association for the Advancement of Science, convened at Glasgow on the 11th of September, was, as is usual at these meetings, a concentration of leading men more especially from the British Empire, but including also some of the foremost thinkers throughout the world contributing to the records of science and history the fruits they have individually gathered in the scientific vineyard during the last twelve months. The first meeting of the association was held at York in September, 1831. Probably not one of the 325 members who attended the first meeting is alive to-day. The Reverend W. Vernon Harcourt, the founder and the first president of the association at its first meeting, marked out the plan of work with such skill and foresight it has remained practically unaltered to this day.

It was agreed that the association should employ one week in every year in pointing out lines in which research should move, preparing problems to be answered, calculations to be made and setting to work in the most useful manner the multitude of humble followers in science who were anxious to know how they might direct their studies with the greatest advantage to science in general.

The transformations wrought in the industries of the world since 1831 are almost miraculous, so much in contrast with civilizations previous to that time that we seem to be living in another world. Many of the greatest problems of the age were first discussed in this association and received there an elucidation which has broadened the domain of science and increased the comfort and intelligence of the human race. The first paper was read by John Dalton of Manchester, in which he detailed his experiments on the quantity of food taken by a person in health compared with the quantity of secretions and insensible perspiration.

At the very first meeting of the association began that system of reform which earned for it the title of "The British Parliament of Science." It was to this association at Glasgow in 1840 that Baron Liebig first communicated his work on "The Application of Chemistry to Vegetable Philosophy," information which chemists have worked out in prepared fertilizers adapted to every vegetable and fruit with the greatest advantage to agriculture.

The life of the British association is one of intense activity, reaching out to every department of science and crystallizing the sometimes immature conclusions drawn from facts and personal observations into more perfect and logical forms.

Among the papers read at the Glasgow meeting in 1901 of special interest to our profession was one by Prof. Cunningham entitled, "Human and Brain Studies." In comparing the brain structure of man with animals which are closely related in intellectual power, Prof. Cunningham notes several points of difference. The cortical substance can be divided into regions in which are situated the motor centers controlling the muscular movements of the more important parts of the body, such as the muscles of the face, hands and tongue. It is not so much the amount of muscle power as the degree of refinement in the movements which determine the size of the area occupied by a motor center. But besides this there are other areas which have no direct connection with muscles and to the increase of these is due the enlargement of the cerebral cortex in man. Here, according to Flechsig, they constitute about two-thirds of the whole, and in these associated centers, as he calls them, originate the higher qualifications of the brain, such as judgment, memory and speech. Prof. Cunningham uses the last as a special illustration of his general argument showing by discussion of the anatomical evidence that perhaps in no other case the acquisition of associated muscular movements has been also associated with a more evident cortical change. In a sense, he does not limit speech to man. The rudiments of it—the communication of ideas by sounds—exists in a large number of animals. Nor does he seek to discuss whether the origin of language is intuitive or otherwise, but he points out that in man alone are these particular structures largely developed and to him alone this systematized language belongs, slowly increasing in variety and strength with succeeding ages. Probably language of a kind existed among the missing links long before the age of palæolithic man, but as it progressed so, too, did the race, and drew further and further away from the ancestral stem of which it is now the topmost branch. These facts are of especial interest if for no other reason in showing the development of certain organic structures of the brain, marking the process of evolution from the lowest to the highest forms of animal life.

Prof. McKendrick, President of the Physiological

Section, reviews the advance of our knowledge in this branch of science during the past quarter of a century, which has been singularly fruitful not only in the gathering in of accurate data by scientific methods of research, but in the way of getting a deeper insight into many of the problems of life. But these researches have not been equally fruitful when we come to investigate the changes happening within the living cell, let it be connected tissue corpuscle or a secreting or nerve cell upon whose changes depend the phenomena of life.

Passing from review of physiological progress during the past two decades, Prof. McKendrick proceeds to discuss some of the problems of what may be called molecular physiology, more especially the question of how many organic molecules may be contained in the smallest particle of living matter and whether in the ovum, for example, there are sufficient number of molecules to account for hereditary transmission.

We can see with the highest power of the microscope a particle having a diameter of one twenty-thousandth of a millimeter, and it is certainly possible to conceive that some of the phenomena of vitality may be exhibited by a body of even much smaller dimensions. It has been observed by mathematical calculation that the organic molecules in the germinal vesicle of an ovum number something like a million, which would give the fecundated ovum several millions. Certain fluids which derive from the culture of micro-organisms may be filtered through thick asbestos filters so that no particles are seen with the highest powers, and yet these fluids have properties that cannot be explained by supposing that they contain toxic substances in evolution, but rather by the assumption that they contain a greater or less number of organic particles so small as to be microscopically invisible. Prof. McKendrick's conclusion is that vitality may be associated with such small particles and that we have by no means reached what may be called the vital unit when we examine either the most minute cell or even the smallest particle of protoplasm that can be seen. The imagination can conceive of complicated arrangements of these molecules suitable for the development of all the parts of a highly complicated organism and a sufficient number to satisfy all demands of a theory of heredity.

THE SECRET OF HEALTHY PHYSICAL DEVELOPMENT.

FIVE years ago, Engene Sandow, advertised as the strongest man in the world, gave a series of athletic exhibitions at Weber & Fields', in New York, in which his claims were fully substantiated. The manifestations of strength were of such a character as to produce the utmost astonishment in all who saw them. Mr. Sandow has returned to America to give lessons in physical training and is stronger than ever before. When questioned as to the development of his almost perfect form and wonderful strength he said: "It is all a matter of mind. If you concentrate your mind upon a single muscle or set of muscles for three minutes each day and say, Do this, and make them respond to contraction, there will be immediate noticeable development. The whole secret of my system lies in the knowledge of human anatomy—in knowing just where one is weak and going straight to work bringing that particular part up to the standard of one's best feature. As a chain is as strong only as its weakest link, so is the body strong only as its weakest member. There is nothing that will make a man strong save his own concentration of thought. My ambition is to establish in every enlightened community the means whereby the weak may become strong and the strong stronger, and to interest philanthropists and statesmen in the accomplishment of this great end."

A FRENCH AND AN AMERICAN HOSPITAL.

AN American hospital is to be erected in Paris, the municipality donating the land. The cost of the building will be defrayed by private subscriptions.

Dr. E. L. Gros, formerly of San Francisco, a young physician of Paris, said: "I do not know a more crying need of Americans in Paris to-day than a hospital. Every American physician in Paris knows of cases where Americans, particularly in the students' Latin quarter, die or ruin their health for life owing to the lack of care enjoyed by most other foreign colonies in Paris. Our plan includes free wards containing twenty beds, as well as a number of rooms available for paying patients, who, if they desire, can be attended by their own doctors, either French or American, the hospital staff, however, to be composed exclusively of American doctors. It is to be hoped that another year will see the necessary fund collected and the municipality's land accepted, since in the present state facilities for sick Americans are deplorable."

A French hospital is to be erected during the coming year in 34th street, near 10th avenue. The French government has contributed to the hospital fund twenty thousand dollars in money, together with Gobelin tapestry valued at fifty thousand dollars. The hospital will be eleven stories high with a frontage of eighty-four feet and a depth of one hundred feet. Each ward will have a sun parlor of its own in the rear of the building, which will be surmounted by a roof garden attractively furnished.

PROFESSOR VIRCHOW.

THERE was a large gathering of scientists at Berlin, Oct. 13th, to congratulate Prof. Virchow on his 80th birthday. The congratulatory services were held on the evening of the 12th in the Hall of the Lower House of the Diet and lasted until midnight. There were present high officers of the government, the entire Faculty of Medicine of Berlin and deputations from all the German universities. Prof. Virchow, on entering the hall, received an ovation. His speech was devoted to the development of pathological science and lasted two hours. Prof. Virchow's laboratories at Ber-

lin and his university lectures have long been the goal of medical students from every part of the world. No congratulations were more sincere than from the leaders of medical science in this country, who recognize in Virchow one of the greatest pathologists of the age, whose discoveries and methods have given such sure clues for successful progress in the art of healing. Born in Pomerania in 1821 Rudolph Virchow so distinguished himself in his medical studies that he was but twenty-six when he was appointed a professor in Berlin University. He was sent almost immediately by the Prussian government to fight a widespread outbreak of typhus in Silesia. Combative by nature and an ardent reformer, he was fired with the enthusiasm of 1848 and threw himself ardently into politics. This cost him his university post, and a paper he started, called the *Medical Reformer*, was suppressed by the authorities. Wurzburg, however, offered him a chair in its faculty, and here during some years he pursued his researches upon the cellular tissues, gave brilliant lectures and advocated medical reforms. In a few years he was recalled to Berlin, but he did not relinquish his political aims, and in 1863 he was leader of the liberal opposition.

This brought him into collision with no less a person than Bismarck, who challenged him to a duel after Virchow had managed to defeat the Prussian Ministry's proposals for the creation of a navy. He resigned his seat in Parliament in 1878, but his frank expression of ultra-liberal views brought about his dismissal from the rectorship of the university in 1887.

SURGEON GENERAL STERNBERG'S REPORT.

THE surgeon general of the army, George M. Sternberg, in his annual report to the Secretary of War states that the general health of the army at present is unusually good, considering the large proportion of soldiers serving in tropical countries. The death rate last year from all causes was 7.78 per thousand, as compared with 7.89 in the previous year.

In the Philippines the death rate from disease last year was 9.08, the principal cause of the fatalities being dysentery. The rate from injury was 8.49.

The death rate in China was very large, amounting to 47.76 per 1,000, 23.62 being from disease, 24.14 from injury.

The health of the troops in Cuba is described as excellent. The death rate from all causes in that island was 9.78 last year, as against 18.30 the previous year. But for the appearance of yellow fever, it is stated that the rate would have been only 4.72. There were 144 cases of yellow fever among the troops, of which 32 were fatal.

In Porto Rico the rate was only 5.05 per thousand, the lowest rate ever recorded in the army.

The total number of soldiers killed by gunshot during 1900 was 377, of which 305 were in action, 21 by accident, 30 suicidal and 21 homicidal. The total number of wounded received in hospitals for treatment was 1,173. One man was killed for every 3.1 wounded, as compared with one killed for 7.4 wounded during 1898 and 1899.

Concerning alcoholism, the report says that the steady decrease of late years, up to the enactment of the Anti-Canteen law, in the admissions to hospitals for this disease among the men in the regular army is a matter for congratulation.

"Military officers," continues the report, "may be said to be unanimous in their opinion that this was the result of the establishment of the post exchange canteen at military posts. There is less drunkenness among the troops in active service than in a command doing garrison duty in times of peace. In the Philippines during the past year the admission rate for alcoholism among volunteers was 8.68, and among regulars 12.41 per thousand; among troops in China, 7.70. These statistics do not sustain the newspaper reports of drunkenness among the troops in the Philippines. In fact, medical officers report the habits of enlisted men in the Philippines as very much the same as in the United States."

The surgeon general speaks enthusiastically of the progress in the scientific investigations of yellow fever that have been pursued under his direction in Cuba. Among the positive conclusions already reached is that the mosquito is the only known transmitting agency of the disease.

"For the first time in the history of this widely prevalent disease," says the report, "we are in possession of knowledge with regard to the manner of its propagation which will enable us, I believe, not only to check its ravages, but to eventually stamp it out wherever it may appear in our garrisons or cities."

THE PAN-AMERICAN CONGRESS.

IF the views of the American delegates to the Pan-American Congress are adopted the republics of the Western Hemisphere will form a league to suppress yellow fever.

The instructions under which the American delegates will act at the Congress were handed to Henry G. Davis, chairman of the delegation, before his departure for the City of Mexico. Among the papers is a memorandum submitted by Surgeon General Wyman, of the Marine Hospital service, outlining a plan for international agreement for the sanitation of seacoast cities. The plan is directed particularly against yellow fever, but the surgeon general says that if put into operation it cannot fail to be effective in many other diseases.

It proposes sanitary improvement of harbors, improved sewerage, soil drainage and paving, and elimination of infection from buildings. An international sanitary commission would be appointed, comprising five members, a diplomat, a lawyer, a physician and sanitarian, a sanitary engineer and a commercial representative. To these five it is proposed to add temporarily two to represent the government in whose domain is located the city or town to be investigated or made to conform to sanitary requirements. The duties of the commission would include visits to the cities and reports upon the

sanitary measures necessary. If the president of the state in which the unsanitary city is located fails to carry out the recommendations of the commission within a year then under Surgeon General Wyman's plan all the republics will impose upon vessels arriving from it an additional tonnage tax and duties upon specified imports from the port until the sanitary work has been completed.

In his letter accompanying the plan Dr. Wyman says it is necessary to wage united warfare against yellow fever. He says:

"The difficulties do not seem to me to be excessive. Sanitary engineering and sanitary devices have now reached such a state of perfection that the placing of any city in a good sanitary condition presents few or no difficult problems, and since sanitation, as against yellow fever, would undoubtedly result in the diminution of malaria, borras fever, accesso pernicioso, typhoid and other well-known diseases, and since in the catalogue of crime and disease no cause thereof is greater than vicious and insanitary surroundings or neglect of sanitary laws, it would seem that if measures such as are presented in the memorandum can be made practicable and in force no achievement would be greater by the Pan-American Congress than this."

THE PROTESTANT EPISCOPAL CONVENTION.

THE Protestant Episcopal Church owes much of its great power and far-reaching influence to the fact that it is recognized as one of the most conservative and democratic religious bodies in the United States. Clinging closely to the simple teachings of Christ, it allows a breadth of thought and a freedom from man-made dogmas and creeds in theology and government unequalled by any other religious body. This is due less to the bishops, who sometimes overestimate their priestly opinion and authority, and more to the clergy and the rank and file of the church, who are brought in contact with every grade of society and feel the vibrations of those undercurrents of life which work for good or evil, as they are wisely directed and learn to deal less with theories than with conclusions drawn from life in their contact in their daily duties with its various phases. This was clearly illustrated in the convention when it was proposed to stiffen the already rigid standards of the church on the question of marriage and divorce, retreating from the Protestant and modern toward the mediæval view of the "sacrament" of marriage, positively forbidding marriage of "either" person who had been the husband or wife of any other person then living unless the former marriage was annulled by decree of some civil court of competent jurisdiction for cause existing *before* such former marriage."

The bishops, who are the official heads of the church, ought to have known enough of the freedom of thought among the people to see that any attempt to force upon the educated men and women of its communion stricter standards than they were prepared to accept would drive them into other communions, and that the restrictive stigma placed upon them by the church which had itself admitted them to its fellowship, would in no sense have injured them, but would have reacted with fearful force upon the standing and usefulness of the church itself in attempting to introduce a standard new to Protestantism. And yet the amendment of the canon passed the house of bishops by a large majority, but was defeated by a still larger majority of the clerical and lay delegates.

There was a vast amount of intellectual power shown in the convention which, if concentrated in a different direction, might have accomplished an immense amount of good and brought about a healthy solution of a great social question, which in its present working is a disgrace to civilization. If this great convention had recommended to Congress the passing of an amendment to the Constitution permitting the enactment of a single divorce law to apply to every state and territory, the medical profession would have eagerly seconded the proposition and sufficient influence could be brought to bear upon Congress to accomplish the desired result. The preparation of this law would of course be entrusted to the most thoughtful and practical minds in the country, who in their united wisdom could formulate a law so just as to make the civil and ecclesiastical law a unit.

THE RATIO OF PHYSICIANS TO THE POPULATION OF THE UNITED STATES.

AN interesting paper on the subject of the ratio of physicians to the population in this country has recently been prepared by Dr. Abbott. It is commonly believed that a population of from twelve hundred to two thousand is necessary to support even comfortably a practising physician, but it will be seen from the following figures that one must go to Alaska or at least to New Mexico to get this ratio.

California is the State which is most liberally supplied with medical men, the ratio being one physician to every four hundred and sixteen of population. A little thought will show the reason for this; California has been for many years a resort for the invalid suffering all kinds of diseases, as well as the Mecca of the convalescent. If the table could be prepared showing the number of sick people in proportion to the physician it will undoubtedly be found that the opportunities for work among the California physicians is not less but greater than in many states where the ratio is larger.

With this practical result existing in regard to California naturally the next state which comes to mind is Colorado, which is the truth, for it stands second with the ratio of one to four hundred and fifty-two; the chances for work among the physicians of Colorado is increased undoubtedly for the same reason that we have given in regard to their brother in California.

It is doubtful if any one could guess the state that stands next on this list, for it is a small state populated entirely by an agricultural people with only one good-sized medical school in its limits. It is Vermont, with the ratio of one to four hundred and sixty-nine. Then

come rapidly Ohio, with four hundred and eighty-nine; Indiana, with four hundred and ninety-four; Missouri, with five hundred and seven; Arkansas, with five hundred and forty-six; while Kansas, Tennessee and Maine are tied at five hundred and fifty-six. Massachusetts is the eleventh state on the list with five hundred and sixty-one, closely followed by Illinois with five hundred and sixty-two, New Hampshire, with five hundred and sixty-four; Maryland, with five hundred and sixty-five, and Michigan, with five hundred and seventy. It is a strange fact that there are more physicians in proportion in Indian Territory with five hundred and ninety-seven, than in New York state, with six hundred and three. The Empire State stands seventeenth upon the list, closely followed by Iowa with six hundred and nine, Texas with six hundred and twelve, Kentucky with six hundred and twenty-five, and Oregon with six hundred and thirty-eight.

The average for the whole United States is reached at this point, for the ratio of physicians to the population of the entire country is six hundred and fifty-five. The twenty-second state upon the list is Pennsylvania with six hundred and sixty-two, followed by West Virginia with six hundred and sixty-seven, Connecticut with six hundred and eighty-seven, and Rhode Island with six hundred and ninety-two. Now come a group of thinly populated Southern and Western States, Nevada with seven hundred and six, Oklahoma with seven hundred and seven, Nebraska with seven hundred and twenty-five, Idaho with seven hundred and forty-nine, Florida with seven hundred and fifty-one, and Arizona with seven hundred and fifty-four, Washington with seven hundred and sixty-two, Georgia with seven hundred and sixty-seven, and Montana with seven hundred and eighty-two.

At this point there come in two Eastern States, the physicians of which probably never suspected they were so fortunate. These states are Virginia with eight hundred and forty-two, and New Jersey with eight hundred and fifty-six, half the ratio of California. Now come in quick succession South Dakota with eight hundred and ninety-four, Alabama with nine hundred and thirty, Wisconsin with nine hundred and thirty-six, Utah with nine hundred and forty-four, Wyoming with nine hundred and sixty-four, and Louisiana with nine hundred and eighty-five.

It is not until we reach Minnesota that the proper ratio is being approached. This state has only one physician to every thousand and four, while in Mississippi it is one to one thousand and twenty-seven, in South Carolina one to one thousand one hundred and twenty-three, in North Dakota one to one thousand one hundred and thirty-two, while North Carolina is the last state with one thousand one hundred and eighty-nine, almost one-third the ratio of California. New Mexico comes next with the ratio of one to thirteen hundred and ninety-five, while Alaska coolly adds another thousand to these figures, making the comfortable ratio of one to twenty-three hundred and forty-nine. And yet it is doubtful whether there will be a rush to Alaska on the part of the physicians who read these figures, for the physician would have to cover an extraordinary area to reach all his patients among this twenty-four hundred.

There is one thing which these figures seem to teach. It is that a large ratio is not the only factor in a physician's success. Undoubtedly the physicians of California and Colorado fare better on the average than those in many of the states who number only half their ratio.

CAN A SEPTIC BULLET AFFECT A GUNSHOT WOUND?

THE unexpected ending of President McKinley's illness brought for the moment the suggestion before the public eye that possibly the bullet of the assassin had been poisoned. Curiously enough this is a subject upon which the medical profession as a whole knows almost as little as the general public. This is natural, for in civilized warfare such a procedure is not countenanced, while the poisoned arrows of the savage have disappeared along with the savages themselves. The medical profession, it can be said in passing, have been benefited by the knowledge they have gained of the poison used by savages on their arrows and darts, for curare and strophanthus are now included in the pharmacopœia.

It has been the popular belief among army experts that projectiles were purified by the act of firing; Esmarck, Volkmann, and Bruns have been prominent advocates of this idea. The most scientific investigation of this subject has been done by Captain Lagarde of the United States army, and the conclusions he came to differ materially from that of the three authorities just quoted. One point which he conclusively decided and which is a side issue on the question is that the majority of projectiles as they come from their original passages are free from septic germs, so that the ordinary bullet fired from the ordinary pistol or gun or rifle is not likely in itself to set up sepsis. He then took bullets and infected them by smearing the conical end of the lead with the culture of anthrax germs. He then shot a number of rabbits and a bull calf, using both a revolver and a modified Springfield rifle. In every case it was found that the anthrax bacilli had filled the blood in abundance and were found in the liver, lungs, spleen and kidneys.

Captain Lagarde then used the streptococcus of erysipelas, the bacillus of tetanus, and the bacillus pyogenes soli with the same results. He then took up the question whether a bullet can become contaminated in transit after leaving the rifle. He found that the old leaden projectile which deforms so readily in ricochetting carries septic matter upon its irregular surface, but that the projectile on the new armament, which is made up of a leaden nucleus encased in a hard envelope of German silver or nickel steel, which makes a polished projectile with a hard exterior does not become infected in ricochetting unless it becomes deformed, which seldom happens.

There is another source of local infection which may be produced by the bullet wounds. This is that the patient's clothing at the point where it is pierced by the bullet may be old and dirty, and hence not aseptic, or his skin at the wound of entrance and exit may hold on it specific germs. All these points Captain Lagarde regards of great value, especially from the medico-legal aspect, for he thinks that it is only a question of time when surgeons will be held accountable by the public for inflicting sepsis in wounds, and that, therefore, the question whether he has caused the existence of blood poisoning, or whether it is due to the missile, is of great importance.

THE USE OF REST IN PULMONARY TUBERCULOSIS.

THE recent publication of an article by a well-known physician in charge of a Canadian sanatorium brings this subject to the attention of the profession. According to this authority the use of rest in phthisis means complete rest in bed or at least on a couch or recumbent chair practically all the time. He claims by the use of such absolute rest surprisingly good results may be obtained in this condition.

In actual experience, however, it is undoubtedly a bad thing to recommend rest simply because a patient is phthisical as a hard and fast rule. Nature did not intend that our organisms should spend more than a certain time in bed unless we were acutely ill. We have a fine illustration of this in the little known condition of "post typhoid bed fever," in which the patient after recovering from typhoid fever if kept in bed too long seems to develop another slight fever, which is cured not by putting him to bed, but by taking him out of it. If we resort too actively to rest in bed, we will soon discover that our patients lose their appetites, assimilate less food, and consequently there is a softening and diminution in their muscles. If we attempt to overcome this by forced feeding we will find that this procedure upsets the gastro-intestinal digestion and produces a loathing for food. If however we substitute massage or electricity for exercise and continue the prolonged rest in bed, we will find that our patients will grow fat, which does not necessarily mean that they are improved in condition.

If our patient is in the early stage of phthisis it is well for the physician to decide the exact amount of physical and mental labor that can be taken advantageously, but absolute rest for prolonged periods may do harm, for an outdoor life with proper exercise which does not produce actual fatigue may be the greatest help to an ultimate cure. Of course, there are many complications, such as pleurisy, hemorrhage, or septic fever, which change the treatment of the case completely. Under these conditions rest in bed is imperative. It is unfortunate, however, for any authority to teach that a consumptive patient must imperatively be placed at absolute rest.

An important question is the influence relatively that exercise and rest exert on the fattening process in the human economy. Whether rest or exercise is more conducive to fat building, may be said to depend altogether on circumstances. There is no doubt that in health exercise gives fat and strength, but it is quite different with the invalid. The fat which is stored up in health may be said to represent so much surplus capital which is laid up for a rainy day; but the consumptive has no surplus capital and lives, as it were, from hand to mouth. In this case all his forces are bent to maintain those bodily functions which are actually essential to life, such as circulation, respiration, digestion, innervation, etc. Commonly these are carried on imperfectly. To him, therefore, exercise as practised by the healthy person is meaningless, for he has no capital to exercise until he gets stronger and lays up some. He must be economical. He must cut down his outgo and increase his income. This he can do only by judicious resting.

It is well known to the farmer and butcher that rest promotes the collection of fat in animals. Swine and cattle, while they are prepared for the butcher's knife, are not permitted to run loose, but on the contrary are closely confined. The famous geese of Strassburg, which fatten to enormous proportions in a few weeks, are shut up in tight boxes with just sufficient room to project their necks. So, too, chickens are prepared for the Paris market by the use of rest and gavage. With no other change in the treatment except the substitution of rest for exercise, consumptives show a marked and distinctive improvement and gain in flesh, but it must be done judiciously and with watchful care on the part of the physician.

Increase of flesh is always desirable in the treatment of phthisis, but it is a great mistake to believe that all patients of this type must make great gains before they can recover. Women are apt to gain less than men and in many cases may make uninterrupted recoveries without any increase in weight.

THE ANARCHIST.

THE great questions of capital and labor, and the social problems of the day are being discussed from two entirely different standpoints. One, from that of law and order by philanthropists with cultured minds and a certain amount of logic, would reach the desired results and bring about the millennium of justice and equality by educating the masses up to what they consider a correct idea of human rights and liberty; the other, with a brain so constructed as to designate an ideal typical criminal outside of any touch of humanity, is of that class clearly outlined by Lombrosi and the other great Italian criminologists as not insane, but criminal in all their instincts. Of this type was the assassin of the President. As a boy he was regarded as an incarnate devil upon whom the punishment to which he was frequently subjected by his parents produced no effect. His father predicted that if he did not mend his ways he would be hung. He was cruel, and delighted in torturing the animals on his father's farm. By the neighbors he was looked upon as a pervert with no sense

of right or wrong, and like most of his class was an arrant coward. His great vanity with the idea that his act would attract the attention of the world alone sustained him after his condemnation, but even that failed before the execution.

STATE SOCIETY MEETINGS.

THE semi-annual meeting in this city of the State Society of New York was exclusively a scientific meeting, well attended and in every respect, especially in the character of the papers read and the marked ability shown in their discussions, instructive and enjoyable. The annual meeting for legislative reasons would, of course, be held at Albany, but the social and scientific advantages of New York are so great that probably the semi-annual meetings of this society will be held in this city.

The double attraction of the semi-annual meeting and the Pan-American Congress brought out a splendid attendance at Buffalo at the semi-annual session of the State Homeopathic Medical Society. One hundred and thirty-seven physicians registered and twenty-six papers were read. If the life of a meeting lies in discussion, this meeting was very much alive, as scarcely a paper passed without intelligent discussion, many of them by several members. The meeting, socially and scientifically, was a marked success.

A YELLOW FEVER INSTITUTE.

SURGEON GENERAL WYMAN proposes the establishment of an institute for the special study of yellow fever. In view of the character of the disease and its liability to invade this country, it would seem proper that the government should adopt every means possible to prevent its spread, and it is probable that further research will help to do this.

There are many points respecting the diagnosis and treatment that are far from clear at present. The responsibility of the mosquito, Sanarelli's bacillus, the character of the infection, and the antitoxin, are still open questions, all of which need careful study.

We hope that Dr. Wyman may be successful in his proposition.

In London there is an old philanthropic enterprise called the Spectacle Mission. It was founded by Dr. E. J. Warner over ten years ago, and provides spectacles for poor working people suffering from defective sight. Last year over a thousand spectacles were given away by the mission. A subscriber of five shillings receives four spectacle cards for distribution, a ten-shilling subscriber ten cards, and so on. The eyes of each applicant are carefully tested, and the spectacles are new, of good glass, with steel frames. Many a poor working man or woman has been enabled by this mission to retain employment.

Malarial blood by injection is said to cure cancer, and that the disease is rarely found where malaria flourishes.

THE REPORT OF THE MCKINLEY CASE.

THE physicians and surgeons who attended President McKinley through the closing days of his life presented a lengthy report recently, before a meeting of the State Medical Society, covering the medical and surgical history of the case of the martyred statesman. It was signed by all who were in attendance and read by Dr. Mann.

Dr. Mann did not mention the operation, but described the President's symptoms and treatment from day to day, going into the fullest details. In speaking of the bulletins, Dr. Mann said that every one of them was absolutely true. Dr. Mann said that there was no bacteriological infection. Continuing, he said:

"If you ask me what caused the President's death, I could not tell you. I doubt if that will ever be discovered. Amongst contributing causes, however, were the President's age, his lack of exercise and his naturally weak heart, which made his pulse high."

Dr. Mann was asked why the X-ray was not applied, so that the missing bullet might be located. Dr. Mann replied that there was nothing in the condition of the patient to show that the bullet was doing any harm and he said that if the "X-ray had been used it would only have been to satisfy the curiosity of the physicians and the excitement attending the operation would have been harmful to the patient, so we refrained from using the apparatus."

Dr. Mann went on to say that at no time whatever had there been the slightest disagreement among the physicians. He said he had never known such complete harmony among physicians in attendance on a single patient. Dr. Mann did not say anything of the autopsy, but described the technical treatment.

Dr. Herman Mynter corroborated all Dr. Mann said. He spoke of the remarkable exhibition of patience Mr. McKinley had displayed and of his charity toward his assassin, and said that the President's manner of bearing his trials was so impressive that there was not one of the nurses who would not have gladly taken his place.

Dr. Gaylord's report of the autopsy says that nothing of importance was noticed about the wound on the chest caused by the first shot. The abdominal wound showed no evidences of necrosis or sloughing. No inflammation of the peritoneum was found. The track of the bullet was traced through gangrenous tissue in the fat behind the kidney to the muscles of the back wall of the abdomen. The direction of the bullet, however, could not be traced any further. In spite of all efforts the bullet could not be found and the autopsy had to be discontinued, because the time allotted to it by the family of the President had been exceeded. Dr. Gaylord adds: "We were satisfied that nothing could be gained by locating the bullet, which had set up no reaction."

Dr. Gaylord believes that the repair to the stomach wounds was effective, and says that the gangrene around these wounds does not seem to have been the result of any well defined cause. The wound in the

kidney, he continues, was of no importance, except as showing the track of the bullet.

The report of the bacteriologist is largely negative. A culture taken from the wound before death showed several varieties of germs expected in such cases. There were present two of the ordinary germs of suppuration, and one gas forming germ of unknown identity. As the result of an examination of various tissues and fluids removed after death, Dr. Matzinger concludes that bacterial infection was not a factor in the production of the condition found in the autopsy.

A chemical analysis by Dr. Hill of the remaining bullets and of the contents of the cartridge chambers in the murderer's pistol showed that there was no poisonous material, thus disposing of the theory of a poisoned bullet.

It would seem that the report sufficiently answers all criticism.

BIBLIOGRAPHICAL.

SAUNDERS' QUESTION COMPENDS. Essentials of Diseases of the Eye. By Edward Jackson, A.M., M.D. Third edition, with thirty-two illustrations.

Like all the other numbers of this series this will be found of great value to the student and general practitioner. The questions and answers presenting in a concise form, yet sufficiently minute to embody the facts intelligibly, will be fully appreciated. The new edition has been carefully revised.

MANUAL OF DISEASES OF THE EYE FOR STUDENTS AND GENERAL PRACTITIONERS, with 275 original illustrations including 36 colored figures. By Charles H. May, M.D., Chief of Clinic and Instructor in Ophthalmology, College of Physicians and Surgeons, New York. Second edition, revised. Wm. Wood & Co., New York, 1901.

The author has been very successful in giving to the student and general practitioner of medicine a very concise and practical manual of diseases of the eye. The illustrations add much to the value of the work and the clearness with which the instruction is given is noticeable.

PROGRESSIVE MEDICINE, Vol. III., September, 1901. A Quarterly Digest of Advances, Discoveries and Improvements in the Medical and Surgical Sciences. Edited by Hobart Amory Hare, M.D., Professor of Therapeutics, and Materia Medica in the Jefferson Medical College of Philadelphia. Octavo, handsomely bound in cloth, 428 pages, 16 illustrations. Per annum, in four cloth-bound volumes, $10.00. Lea Brothers & Co., Philadelphia and New York.

This volume will prove of more than usual value to the general practitioner. Dr. Ewart presents the most recent views on Pneumonia, Tuberculosis, and other conditions of the Respiratory Tract. In the consideration of the diseases of the Heart and Blood-vessels Dr. Ewart discusses very fully the recently exploited forms of treatment by baths medicated and otherwise.

The section on Dermatology and Syphilis by Dr. Gottheil, besides giving the most advanced information concerning the ordinary problems presented in those subjects, discusses very fully the new and important subject of Photo-therapy and the Finsen Light treatment; Blastomycetic Dermatitis, and Inoculation Tuberculosis.

In the section on diseases of the nervous system Dr. Spiller devotes a large portion of his space to an able discussion of tumors and abscesses of the brain. He also describes the commoner forms of the peculiar nervous diseases which are sometimes so puzzling to those who have not made a special study of neurology.

In Obstetrics Dr. Norris discusses very fully the treatment of Eclampsia. He gives also the most recent views on the subject of Symphysiotomy and discusses the large number of recently reported cases in which Lumbar Anesthesia has been employed in obstetric practice.

WARWICK OF THE KNOBS. By John Uri Lloyd, Author of Stringtown on the Pike. 12mo., illustrated. Dodd, Mead & Co., publishers, New York.

The immense popularity of "Stringtown on the Pike" will be more than equaled by the author's latest publication, "Warwick of the Knobs." The story is so absorbing that in reading it we forgot our dinner and took no note of time till in the small hours of the morning the last page was turned. The scene is laid in Kentucky during the Civil War, and every page is full of life and action. Warwick, a Hard-shelled Baptist preacher, is the dominant figure, a relentless bigot, trampling on all human affection in his blind devotion to family pride and his adherence to the theological doctrine of predestination. If the author had made a happier termination and infused a little of the spirit of Judson into the heart of the old man, it would have saved us and many others, also, the flushed face and the flashing eye as we dashed the book upon the table with the muttered exclamation of, *"Damned old brute!"*

SEXUAL HYGIENE, COMPILED FROM BOOKS, ARTICLES AND DOCUMENTS, MANY NOT HERETOFORE PUBLISHED. By the Editorial Staff of the Alkaloidal Clinic, Chicago. The Clinic Publishing Co., 1901.

Few books, if any, have been published during the past decade so much needed and calculated to do so much good as this little volume. The lessons are taught which every physician should know how to utilize in the service of humanity. The subject is handled scientifically and the reasoning is logical and conclusive.

A TREATISE ON THE ACUTE INFECTIOUS EXANTHEMATA. Including Variola, Rubeola, Scarlatina, Rubella, Varicella, and Vaccinia, with especial reference to Diagnosis and Treatment. By William Thomas Corlett, M.D., L.R.C.P. Lond., Professor of Dermatology and Syphilology in Western Reserve University; Physician for Diseases of the Skin to Lakeside Hospital; Consulting Dermatologist to Charity Hospital, St. Alexis Hospital, and the City Hospital, Cleveland; Member of the American Dermatological Association and the Dermatological Society of Great Britain and Ireland. Illustrated by 12 colored plates, 28 half-tone plates from life, and 2 engravings. Pages viii-392. Size, 6¼ by 9¼ inches. Sold only by subscription. Price, extra cloth, $4.00 net, delivered. Philadelphia: F. A. Davis Co., publishers.

The obstacles to the clinical study of the diseases of which this book treats have been the means of producing an excellent work on this most important group of diseases.

The text is clearly expressive, sufficiently exhaustive,

and beautifully illustrated, in the interest of differential diagnosis. The book is most worthy a place in the library of every general practitioner.

LIBERTINISM AND MARRIAGE. By Dr. Louis Jullien (Paris), Surgeon of Saint-Lazare Prison; Laureate of the Institute, of the Academy of Medicine, and of the Faculty of Medicine of Paris. Translated by R. B. Douglas. Pages v-169. Extra cloth, $1.00 net, delivered. Philadelphia: F. A. Davis Co., publishers.

The author of this little book attempts to prove by his clinical examples, that in the majority of the cases noted, the woman has been victimized, and it is with a view to free her from a redoubtable malady and lead to emancipation that he makes his effort. In his introduction he gives some excellent advice on "Professional Discretion," and the rest of the volume is devoted to the subject of "Blennorrhea" and its treatment. The book will be found interesting and instructive.

ELECTRICITY IN MEDICINE AND SURGERY. By William Harvey King, M.D., of New York. With a section on Electro-Physiology, by W. Y. Cowl, M.D., of Berlin, Germany, and a section on the Bottini Operation, by Alfred Freudenberg, M.D., of Berlin, Germany. Price, $3.50 net. Boericke & Runyon Co., New York, publishers.

The fact that all that is believed to be worth writing on the subject of electricity in medicine and surgery, including a section on the X-ray, is here contained in less than 500 octavo pages is not due to an impractical condensation of material, for the descriptions are most complete, but to a careful preparation and sifting out of that which is useless.

The book, while intending to be thoroughly scientific, is aimed to be a practical treatise for the busy practitioner, and a comprehensive text-book for the novice in electro-therapeutics.

CORRESPONDENCE.

SEMI-ANNUAL MEETING STATE HOMEOPATHIC MEDICAL SOCIETY.

To the Editor of the MEDICAL TIMES:

I am convinced that the change of location of the semi-annual meeting, which was agreeable to the wishes of the physicians of Utica, to Buffalo, was advantageous, so far as the securing of a large number of physicians is concerned, but that is not all, for the sessions which were held from 9 o'clock in the morning until about 1 o'clock in the afternoon on each day gave the members an opportunity for visiting the Exposition, which they did in a most energetic manner.

I am not able to critically discuss the various papers which were presented, but the interest throughout was marked and general good feeling prevailed.

The paper of Dr. George W. Roberts, who is chairman of the Bureau of Gynecology, was interesting in that he gave fine differential methods of the operative technic of appendicitis. The paper called forth considerable discussion by such able operators as Dr. J. M. Lee, of Rochester, and DeWitt G. Wilcox, of Buffalo. Mr. Terry was finally called upon by various members throughout the house to express his views. They were quite in contrast with the heroic surgery advised so conspicuously by most of those who had previously addressed the meeting. He began by stating the causes leading up to this difficulty, 95 per cent. of which he attributed to constipation and irregularity of the bowels. He also stated that the microbes, so frequently attributed as a factor in appendicitis, to be absurd, remarking that in the mouth, wherein are constantly a variety of microbes extending entirely through the alimentary canal, various bacilli are always present. His remarks were followed by a full description of the now well-known so-called "oil treatment" for appendicitis, which has been printed in your journal and others in this country.

The paper presented by Dr. DeWitt G. Wilcox, on "Sterility and Fecundity," was one of marked interest and was well received, as are all papers written by this progressive surgeon.

Dr. Seldon H. Talcott gave an interesting address on "Spiritualized Food for Mental Invalids." The doctor is always an agreeable speaker, and his talks are usually the result of his own personal observations.

Dr. J. W. Sheldon's paper elicited much interest on the subject of "Experience with Oxygen in the Resuscitation of a New Born Infant."

As a whole, by giving attention to all the papers, one would be able to receive many practical and advanced thoughts calculated to help him in fulfilling his imperative duties at home.

Dr. Joseph T. Cook gave some of the members a dinner quite characteristic of Alt Nuremberg, and Dr. Wilcox, at the Ellicott Club, entertained in his usual happy manner quite a number of the physicians and their wives. Some bachelors were also present. The post-prandial speeches were especially vivacious and called forth unlimited merriment.

In closing I shall not detract from the dignity of some of the high officials connected with the State Society, for it was quite evident that the Buffalonians were determined that the physicians who had come to their beautiful city should see the Midway Plaisance in the fullness of its life. As we visit the Midway now mentally and see some of our most gifted members entering into the frolics, such as riding the elephant, the camel and the donkey, with the same enthusiasm of the average youth, I am impressed with the fact that a relaxation of that sort is of the greatest benefit to those who are obliged when at home to go through a routine of dignity to which is attached imperative responsibilities.

YOUR CORRESPONDENT.

MOIST DRESSING IN MINOR SURGERY.

Within the past five years I have received an unlimited amount of censure from many esteemed confrères in this section regarding the arbitrary manner in which minor cases of surgery have been treated by the writer.

Be it said to the credit of my professional brethren hereabout, I believe they were sincere in their contumely, but, may I further add myopic, and wedded to a clouded sphere in which the dawning light of a new surgical era rarely casts a ray. In plain street parlance they appear "fenced in" and necessarily walled off.

A twelvemonth has given me the opportunity of treating ninety-six cases, varying from a lacerated digit to a pulpified hand and forearm.

Prior to this time my records show nearly five hundred people treated as the title would indicate. My past success does not warrant a change of tactics in the near future.

The process is simple and is as follows:

℞ Euthymol ..... ℥i
Acid carbol ..... gtt. xx
Morphia sulp ..... gr. xij
Aqua, q. s. ad ..... ℥vi

M. et Sig.: Apply locally when necessary.

Dressing same as any other wound, unless there is expended tissue to be replaced; then use next the skin perforated rubber tissue, so that blood clots may fill in and thus create thereby new growth. First, however, over the naked wound, apply a solution made by triturating equal parts by weight of chloral hydrate, gum camphor and crystallized phenol, which answers as a splendid local analgesic and antiseptic. This prepparation causes a smarting sensation for five or ten seconds, after which the pain ceases. To summarize:

Rarely do I ever make *any* attempt to cleanse the wounded part—*i. e.,* to scrub with brush, soap and water; use carbolic or bichloride solution. I merely wipe around the parts injured with moistened absorbent cotton, thereby disturbing the patient as little as possible. Then freely use the phenic-camphor solution and apply rubber tissue *if necessary,* gauze and external bandage, cutting in the latter at the most convenient part, a small finestra that the euthymol liquid may be poured on the wound when occasion demands. The occasion demands it when it pains, throbs, or becomes dry. Use at subsequent dressings little or no water. Live granulations and blood clots will not tolerate teasing. In all the cases mentioned I have *never had any pus* formation, when directions were carried out. Twenty-four cases developed pus. Seventeen broke their bottles, three forgot to use the solution, and four said, "it didn't hurt," and thought it unnecessary to continue the liquid.

In all ordinary cases three toilets, at intervals of three to four days, will suffice.

Now, in the face of sepsis, this is a most remarkable record.

In the light of antisepsis, this is a bold procedure, and the latter is why I am a subject for target practice for some of my friends. They argue infection every time. But no, living examples daily meet my gaze which prove my every statement.

The patients treated have come mostly from every walk in life, but the major portion of them have been machinists, railroad employees, "general bad men and scrappers," famous in and indigenous to every section.

Again, never cut away flesh. Bone may have to go *sometime,* but always give the superficial integument a chance to grow in *moist dressing,* and Dame Nature will tach you a wonderful lesson. She may ofttimes move like the proverbial snail, but in the end, with your assistance, she will treat your patient right, moulding distorted masses into shapely and useful implements. In these cases don't trim for cosmetic effect. You simply place mothers *together* surgically or *otherwise.* Trimming has made cowards of a great many animals.

Be careful. Be humane. Be surgical. Good judgment is analogous with and sometimes ahead of good cutting.

Treating minor wounds by the old method is as primitive as "probing for the ball."

LUCIEN LOFTEN, M.D.

Emporia, Va., September, 1901.

CHRISTIAN SCIENCE SUIT FOR DAMAGES.

Mrs. Jennie W. Spead's suit for damages against Irvin C. Tomlinson, a Christian Science healer, is on trial at Concord, N. H. The case arises from the plaintiff's accusation that she was treated wrongly for appendicitis and was forced to undergo an operation afterward. She had received absent treatment, had been prayed over and had heard portions of Christian Science text-books read.

The court ruled out a regular practitioner who was brought forward as an expert witness of the plaintiff. Mr. Streeter, counsel for Tomlinson, in his plea declared that the defendant is not guilty—first, because he is not a physician, but a Christian Science healer; second, because he was only bound to use the Christian Science method in the treatment of disease; third, because the plaintiff employed Mr. Tomlinson knowing him to be such; fourth, because the curing of disease is an essential part of Mr. Tomlinson's religious belief.

N. E. Martin, of counsel for plaintiff, answered Mr. Streeter, arguing that the testimony to show neglignce in the treatment of Mrs. Spead was admissible, and to show negligence it was proper to put in evidence the practice of other physicians in the treatment of disease.

Judge Stone ruled finally that while the plaintiff might put on physicians to show the condition of Mrs. Spead, they could not employ them to show negligence in the Christian Science method of healing. He said that this was of great importance, as it was the first decision of the kind which had been brought in the State, if not in the United States. It would have to go to the Supreme Court, anyway, and it is well that it should go in order that the important points raised may be determined and thus act as a guide in further actions of the kind.

PROBLEMS IN TREATMENT.

TIME TO BEGIN SPECIFIC TREATMENT IN SYPHILIS.

SPECIFIC treatment should not be begun until after secondary lesions make their appearance. This is better because the secondary lesions, if allowed to appear unchanged by treatment, show what character the disease is assuming in that particular case, and the treatment can be based on such knowledge. Again, it is found that some lesions will come anyway in spite of specific treatment during the first stage in nearly all cases.

The treatment before the secondary stage should be general in character, preparing the patient for the attack, and in this way often rendering it less severe in its effects. The patient's teeth should be examined, and if any roots are found they should be removed, and all cavities filled. Mouth washes should be employed, and in various ways the patient should be made ready for long-continued treatment.

Warm Baths Contraindicated.—We have here a man who was treated for dropsy a year ago. Four days since he presented himself with the following conditions: He had general anasarca, a moderate amount of ascites, a double hydrothorax, and also evidences of some effusion into the pericardium. The urine amounted to but eleven ounces in twenty-four hours. An interesting point in this case is that he presents none of the usual signs of such a condition in his face. This was very misleading on first sight. He was purged freely with calomel, three grains every four hours, until watery stools were obtained. He was put on a strict milk diet, and was given canthar. and nux vomica in Basham's mixture.

To-day the swelling is much lessened in the extremities and the breathing is easier. The patient has lost eight pounds in four days, and the urine has increased to thirty-nine ounces. Some one has very properly asked why a steam bath was not administered. In reply, I would say that it was not thought advisable in this case because of the great compression of the heart by so much effusion in the pericardium and chest. Further, the action of this man's heart is rather feeble. Under these circumstances the gradual withdrawal of the fluid by purging was employed instead of the ener-

vating warm bath. This patient is at a critical stage in the disease, and must be tided over it very carefully. A point to remember in this connection is that the warm bath is often very difficult to give in private houses, and the physician should accustom himself to other means as a rule. Where the bath is obtainable and there are no contraindications it may be used instead of the slower method of purging.

Hepatic Colic.—A. P., an Italian, aged 33, was admitted to the hospital January 23, complaining of pain in the region of the gall-bladder and in the back. Family history is negative, his mother dying at 65, his father being alive and well. One brother and one sister died at childbirth. Patient was never sick before. He uses alcohol moderately. The disease began January 15, with pain in the abdomen, and he noticed that his urine was dark and that he was jaundiced. Examination of the patient shows a jaundiced condition, the covered parts of the body being more so than the face. Examination of the urine shows the reaction for bile to be present. Temperature has varied between 99° and 97° F., with a rise yesterday, which may have been due to constipation. Pulse has been slow, 60 to 80. When jaundice comes on suddenly in a man of middle age, we think of four conditions which might cause it: Catarrhal jaundice, gall-stones, malignant disease of the liver, and hypertrophic cirrhosis. We can exclude catarrhal jaundice, because although the condition and symptoms resemble that disease, there are many things against such a diagnosis, as the absence of nausea and vomiting. Malignant disease of the liver can be eliminated, as there is no emaciation and no symptoms of malignant disease, and liver dulness extends in the mammary line from the sixth interspace to the margin of the ribs. The liver is not hard, and no nodules can be felt.

The jaundice and the pain coming on suddenly, particularly in the region of the gall-bladder, are symptoms which point to gall-stones, so we diagnose the case as one of hepatic colic. The question now is: Where is the stone? Has he passed it or is it still retained? He had a rise of temperature yesterday, so we think that the stone is still present and in the common duct. When the stone is arrested in the common duct near its entrance into the duodenum, which is the most frequent seat of arrest, hepatic fever occurs. The patient would have irregular chills, fever, sweats, and intense jaundice, a condition closely resembling Charcot's intermittent malarial fever. The latter, however, would show more regularity in its course, the chills coming first, then the fever, and lastly the sweats, and the malarial parasites would be present in the blood. We infer, then, that the stone is still present in the common duct, as if it were arrested in the cystic duct, there would be an absence of jaundice.

The treatment of hepatic colic consists chiefly in allaying the pain, and to do this some give opium by the mouth, but as vomiting is a frequent condition, he does not derive much benefit from its administration thus. Better to give full doses of morphia hypodermically, and if this is not efficient in arresting the pain, inhalations of chloroform can be given. Hot fomentations over the abdomen ease the pain. The diet should be sparing.

Diabetes Mellitus.—C. G., American, aged 25, a driver by occupation, was admitted to the hospital January 24, complaining of general weakness, great thirst, and indigestion. The family history is negative, with the exception that his mother died of phthisis. Has three children. Has had none of the diseases of childhood. The patient gives a history of having, a year ago, jumped from the rigging of a vessel to the deck, only a short distance, and landing on his feet. His knees gave way immediately, so that he fell to the deck and had to helped to his feet. After that he noticed a loss of strength in his legs, and that he developed great thirst and passed large quantities of urine. On examination, the urine is pale and grass-green in color, has a sweetish odor, a specific gravity of 1044, and on making Fehling's and the Boetcher tests, shows sugar in abundance. Yesterday he was given a large dose of sweet oil, to see whether fat was eliminated in the stools, the latter this morning containing fat. The diagnosis is clearly diabetes mellitus, of pancreatic form, the undigested fat in the stools following the dose of sweet oil, showing that the pancreas is diseased. In pancreatic diabetes the urine shows an abnormal amount of sugar, 20 per cent. in this case. He probably sustained an injury to the pancreas in jumping to the vessel's deck. All the symptoms of diabetes mellitus are present except one, that of itching of the skin, especially of the genitalia. Pruritus of the genitalia in old people should always cause an examination of the urine for sugar. Under forty years of age, diabetes is a fatal disease, while in those over fifty, especially if they are fleshy, the prognosis is good as regards life. Diabetes in the young generally runs a course lasting about sixteen months.

Treatment consists of a restricted diet, eliminating the carbohydrates, but giving red meats and fresh, green vegetables. Also eggs. No liquors, but plenty of water. As he craves it and is passing large quantities continually, so that large amounts must be consumed to make up for that lost. The most effective drugs in the order of their effectiveness are opium, arsenic, and antipyrin. When administering opium continuously, it is best not to let the patient know what you are giving him, and do not give him the same preparation of opium for too long a time, changing off every few weeks. When administering opium, especially if for the relief of pain, write the prescription so that the patient, if he takes the troube to read it, will not recognize the fact that he is taking opium. On high days and holidays take the patient off the restricted diet and allow him to eat what the other members of the family eat, as by so doing you can have better control over him in the interval.

ANOMALIES OF MILK SECRETION.

APPARENT milk secretion, absence of milk secretion and milk secretion at irregular times are the principal anomalies of milk secretion. The first occurs in the infant, in young boys and girls at the time of puberty, when drops of colostrum could be squeezed out of the enlarged and hardened glands; in women with mammary tumors, either malignant or benign, from whose breasts could be squeezed a few drops of a turbid or hemorrhagic fluid, in which could be found round and epithelic cells, chloesterin and bacteria, but no fat particles; in women with chronic eczema of the retracted inverted or atrophied nipple, in whom the diseased surface kept up a constant weeping, that is often taken for milk secretion.

Entire absence of secretion may be signified as in the following case of a woman, thirty years of age. Three years before she had borne her first child, which she had nursed out of one breast for some months. The other breast furnished a small amount of milk only for a few months, then "water," and in a little while nothing. The gland on this side was hard and not easily

compressed by the fingers. The attending physician believed it to be the seat of fibroid formation, otherwise called cirrhosis of the breast, a condition necessarily interfering with functional activity of the gland, and furnishing, moreover, in its ultimate stage of shrinkage, the foundation for carcinomatous formation.

Illustrating milk secretion at odd times, is given the following case: A woman, forty years of age, had married at the age of thirty, and had had several children. On account of retracted nipples she had never been able to nurse properly, although she always had plenty of milk in the breasts. From the time of her first delivery, the breasts had never been empty, and were two years after the birth of the last child actively secreting milk. Since the last delivery there had developed in the right breast a lump, which the physician opened, thinking it an abscess. There was no pus, but a quantity of turbid fluid, stained with blood, ran out. In a few days there occurred the same phenomenon seen on the third day after delivery—sudden congestion of the breasts and their engorgement with milk. The incision did not heal, but left a lacteal fistula. In endeavoring to slit this open, there was encountered a small, new growth in the breast, which proved to be a carcinoma. The right breast was consequently amputated. The left breast still continues to secrete actively.

MASSAGE IN SURGERY.

THE following description given by a well-known surgeon is instructive of the use of massage as an adjunct in the treatment of surgical disease. Its employment is invaluable to restore the part to normal functions after the removal of pathological conditions, injury, operations, and during the progress of and after operations, for certain lesions of the nervous system. Its field of application is very large, including the diseases of the joints, traumatism, many operations upon the bones, ligaments, fascias, and certain deformities due to diseases of the nervous system.

"In diseases of the joints, massage has been employed in the treatment of hip diseases and knee-joint disease from time immemorial; but in the treatment of ankle-joint disease and tubercular disease of the shoulder, elbow, wrist and in certain stages in the treatment of Pott's disease, this treatment is not as frequently employed as it should be. After the acute stage has passed in these diseases, the proper, cautious, daily use of the massage will accomplish results which are truly marvelous. In gout and rheumatism of the joints, after the acute stage has passed, its use is followed by a subsidence of the swelling. In the correction of deformities, either in the treatment of the club-foot, in addition to the manipulations which are employed in the milder forms, massage will be found of great benefit to restore the power of the weakened muscles. In all of these instances massage should be prescribed daily, and should be accompanied by or alternated with faradism."

Traumatism.—Massage is useful in contusions, sprains, lacerations of the fascias and ligaments, and in the treatment of joints after dislocation. Its proper and daily use in these cases is followed by rapid recovery, and its application should be prescribed with as much care as any other surgical remedy.

Operations.—Massage is useful after operations to bring the parts to normal condition, particularly where these operations have been performed upon the bones, muscles, tendons or fascias, for the relief of deformity after tenotomies, myotomies, aponeurotomies, brisiment force, osteotomies, uninited fractures and anchylosis. After operations upon the muscles, tendons or fascias, massage should not be employed until two weeks has elapsed from the time of the operation, and after operations upon the bones, full four weeks must be allowed to pass before resorting to massage. After aponeurotomies, as for cavus or for Dupuytren's contraction of the palmar fascia, mild, gentle massage may, with benefit, be commenced as early as one week after the operation. It may also be employed after any operation in which it is desired to increase the nutrition of the part and hasten recovery.

Diseases of the Nervous System.—For cerebral palsies, infantile spinal paralysis, after neurectomies, neurotomies, after operations for torticollis, the use of massage is of the greatest service. In cerebral palsies and infantile spinal paralysis, there should be general massage of the whole body, with special rubbing of the affected parts, and especially in cerebral palsies it should be accompanied by rapid and forcible movements of the parts. In scoliosis massage is secondary only in importance to the use of systematic exercise. It should be applied to the weaker muscles, with the patient in the prone position and with the arms in the neck rest position, with the back fully extended. In this position the massage may be accompanied by forcible manual correction and the use of passive movements with resistance. In stoop shoulders, carnum pictonem (pigeon breast) in connection with systematic exercise and forcible breathing, it will be found of great benefit.

The advantages to be gained by the more frequent employment of massage in surgery are the more rapid and complete recovery from the lesions and operations in which it is employed.

THE RESULTS OF ENLARGED TONSILS.

THE following groups of cases, similar in kind, some as they first appear, and others showing progress, mode or complicating conditions, are interesting to study. This is of the utmost value in clinical teaching, though the student and physician are too prone to prefer seeing accidental cases of rare diseases.

Those are of a kind which always interest one deeply and suggest thoughts well worth careful consideration. It is only of late years that specialists have been calling attention to those lesser throat and nose troubles in children. which though seemingly not grave, yet exercise so powerful an influence on the future development of the man. Few, indeed, of general practitioners are sufficiently alive to the value of exploring the upper air passages. Yet by so doing are they often enabled to exert their highest prerogative in practicing preventive medicine. Let me advise you never to omit a careful inspection of the throat in pretty much all children presented for your consideration. This may seem a needless routine, but the pursuance of a definite plan in the examination of sick infants should ever be conscientiously observed. This should include, by the way, a handling of the abdomen and chest and also a look at the eyes. Bear in mind, as you very well know or will speedily learn, that if the medical testimony of the adult is to be doubtfully received, how much more must the data gleaned from a timid child or from nurse or mother, which last as generally an obstinate preconception of what ought to be the matter with the sufferer, be cautiously received or observantly added to. Look then, I say, at the fauces of most sick children, and they will often reveal surprises. You may thoroughly auscult the chest of one in whom a troublesome cough exists,

and finding soft mucous râles all about administer expectorant galore and get a fair result in a week or two. If, however, after looking at the open throat and finding engorged, lumpy surfaces, with tenacious, adherent mucus, you wash this off with an alkaline spray and apply some mild sedative, and if you also bestow a slight laxative which shall carry down and out the swallowed mucus, the cough may disappear over night.

Now these several children are taken at random from the large number ever receiving treatment for acute or subacute catarrhal disorders. Most of them seek relief for cough only. You see there are evidences in most, of repeated inflammations; thickened mucous membranes, hypertrophic patches here and there, obstructed follicles, enlarged superficial veins, etc. In many the tonsils are much too large, and in a few enormous; the uvula relaxed and hanging limp down to the base of the tongue. To be sure, these children belong to the class which is greatly exposed, running in and out of small superheated kitchens to damp and narrow courts reeking with microbic life. Again observe the noses; excoriations about the external parts, narrowing of the cavities to the point of occlusion, and filled with dense masses of semi-hardened mucus; also widened and flattened bridges. It will at once be plain to you that here much can be done for the cough by local measures, and of these we will speak anon. There is a pallor, too, about these little ones other than that which results from acute disease, and probably owing to the deficient air absorption. The facial expression is characteristically dull.

The points on which I wish to dwell to-day are but two—the serious effects of the mechanical interference offered by the enlarged tonsils and thickened mucous surfaces to the entrance of air into the lungs, and the impairment of nutrition by this and the perverted action of these glands.

This is obvious to you all in such an instance as this boy of 7, where the lateral tonsils actually touch each other. These, with the velum above and the base of the tongue below, shut off very thoroughly the ingress of air by this avenue. There remain the nostrils, to be sure, but back of the velum you will find often, though not here, large adenoid growths depending from the vault. The amount of oxygen which this poor, air-hungry innocent succeeds in absorbing must indeed be small. The consequences may be rapidly pictured to the mind or more graphically exhibited in these several narrow-chested, stupid-looking children. During the earlier developmental years a little thing, as you all are aware, will turn the current of symmetrical growth aside. Let the infant lung not readily become expanded fully, and its tissues fail in forming; the bony walls, pushed in by the over-balancing outside air pressure, keep the thorax ever too small. Thus arises the narrow, wedge-shaped chest with its cupped appearance often classed with, or co-existing with rickets. Then the blood itself fails of its full oxygenation, and an incalculable host of evils arises, checking growth in all directions.

Next you will observe that whatever be the functions of the tonsil, it practically ceases in such a condition. In the naso-pharynx and pharynx are massed together a very considerable and important series of lymph follicles and glands. Chief of these are the well-known faucial tonsils; next comes the pharyngeal tonsil situated in the vault of the pharynx, which, when hypertrophied, forms the post-nasal growths. Also, though not so well known, is the so-called fourth tonsil, a collection of crypts and follicles at the base of the tongue, between the circumvallate papille and the epiglottis. To these must be added here and there groups of follicles on the side walls. Now it is profitable to consider what functions these serve, and while they are not easily defined or very accurately known, they must be very important. It seems very well established that the faucial tonsils act in the prevention of fluid waste in the economy by reabsorbing the secretions of the mouth. Also, that they absorb certain of the food elements as the chewed mass passes by them. Thirdly, that they form part of the blood-making system and use up any nutriment remaining in the spent buccal secretions.

A Study of the Causes and the Septic Conditions Following Abortion.—There is nothing in Nature's processes in pregnancy by which she is ready to interrupt the growth of the fetus early in its career. Everything at this time is devoted to the nutriment of the embryo. Hence an abortion occurring early in pregnancy is a greater risk to the patient than if it occurs later. The patient may escape for some time any untoward symptoms, yet the careful physician must not allow his patient to go with the products of an incomplete abortion in the uterine cavity. Immediate measures should be taken to remove the contents of the womb. If the organ is undilated this can be done by tamponing the cervix and vagina with antiseptic tampons such as those made of iodoform gauze. When the uterus permits, the finger should be inserted if necessary, with the patient etherized, and the remaining envelopes carefully scraped off; then the cavity should be thoroughly cleaned out and washed with some antiseptic solution. It may be necessary to use placental forceps to remove the portions in the fundus. If sepsis has actually appeared, the cavity must be thoroughly dilated and curetted. Then it should be packed with iodoform gauze. This gauze is a drain, keeps the surfaces apart, prevents retention and acts antiseptically by neutralizing the products of decomposition.

The use of ergot in these cases has been widely taught for the purpose of arresting hemorrhage and securing expulsion. But ergot acts on all the uterine muscles, it closes the cavity and retains within it the decaying products there.

If the case has gone on to further sepsis, caused by delay, so that there is high temperature, tenderness over the abdomen, pain and a distended uterus, then it is well to open the abdomen as well, clean the peritoneal cavity, and remove the ovaries if necessary.

Opinions, however, vary as to the treatment of incomplete abortion. Sanger, the great German authority, is a firm believer in the dilatation of the cervical canal with either the finger or Hegar's dilators. He believes that the curette should never be used without previous examination by the finger. In this way tissue can be accurately determined and the curette then used to remove them. He recommends for large masses of placenta the ovum forceps which he has devised for this purpose. He considers it usually unnecessary to pack the uterine cavity, as he believes that the uterus contracts rapidly when fully relieved of its contents. He does not consider that gauze really drains the uterine cavity, although it may stimulate the uterus in cases of atony.

Gessner, of Berlin, opposes the use of the curette, and states that he has treated 800 cases without it successfully. If he cannot move all with his finger he leaves it behind. Biermer, on the other hand, thinks that if the curette is carefully used, it is the most satisfactory

method of emptying the uterus. He recommends using a large curette to minimize the danger of perforation.

Budin believes in the expression of the uterine contents bimanually. He etherizes the patient, to obtain complete relaxation of the abdominal walls, then introduces the finger into the cavity of the uterus, dilating, if necessary, with Hegar's dilators. With one or two fingers in the uterus and a hand on the abdomen, the uterine contents are completely detached from its walls. When this is accomplished a hand is placed in the posterior fornix and the other hand on the abdomen. The body of the uterus is now firmly compressed and in a large proportion of cases the contents are rapidly expelled. If the placenta is very bulky it may be necessary to break it up with the finger in order to allow it to come through the narrow cervix. The uterine cavity is again explored; if nothing remains, an intrauterine douche (bichloride 1 to 400) is given, and the cavity is also swabbed out with wool dipped in the same solution. Glycerine creosote is now applied to the cavity and, if necessary, a gauze tampon.

Bossi has made a scholarly study of the causes of abortion based on a large number of cases, and has come to the following conclusions: 1. The large number of cases in which the cause of spontaneous abortion is unknown induces the belief that the etiology of the occurrence needs further study. 2. The frequency of abortion among the poor in outpractice is much greater than given in hospital service, reaching 25 per cent. 3. The causes may be divided: (*a*) Traumatism and accidents of various kinds ocurring at the time corresponding to the menstrual period or in cases of habitual abortion occurring at the period of pregnancy in which the previous miscarriage occurred; (*b*) syphilis or some not well understood cause, which may be overcome by mercurial or potassium iodide treatment; (*c*) chronic affections of the cervix, the cervical canal or the uterine cavity, lacerations of the cervix, and pre-existent lesions of the appendages; (*d*) retroversion of the uterus and other anomalies in its form and position; (*e*) functional affections, deficient resistant force in the mother, rise in temperature, infective processes, anomalies in the development of the ovum. 4. The rational prophylaxis of abortion is dependent on a knowledge of the causation. 5. In the treatment of abortion we should always endeavor to ascertain whether it is possible to avoid it and consider it only as meritable when we find death of the fetus, rupture of the ovum, dilatation of the cervix, descent of the ovum in the cervical canal, and hence detachment from the uterine walls. 6. The treatment of curable abortion is of two kinds; the first, or general treatment includes the use of opiates, viburnum prunifolium hydrastis canadensis, etc. *Treatment directed to the cause* consists of precautions to be taken during the days corresponding to the menstrual period, in antisyphilitic remedies, local treatment for vaginal and cervical lesions and the cure of retroversions, prolapsus, etc.

In threatened abortion, the line of treatment consists first of all in complete rest, accomplished by putting the patient to bed. A mustard plaster can be applied over the back, between the shoulders, to divert the blood from the pelvis. Opium will allay the irritability of the uterus and interfere with its contraction, preventing the further separation of the envelopes; salines, by producing watery stools, keep the current of blood from the pelvis. Leeches are recommended by some authorities to be placed over the inguinal canal, depleting the uterus through its supply of blood to the round ligament. Lawson Tait regards the drug viburnum prunifolium as the best in decreasing congestion, hence useful in impending abortion; it should be given in the form of the fluid extract, a dram at a dose every three or four hours. Chlorate of potash is also recommended by Tait in cases of chronic abortion.

In closing it is well to give this caution: women simply suffering from pain and hemorrhage need not necessarily abort. It is only when the fetus is injured by these symptoms that abortion takes place. Some women menstruate regularly through pregnancy, and there are cases on record where women have only menstruated when pregnant.

GLEANINGS.

THE DIGESTIVE CANAL OF A MOSQUITO.

Mr. F. W. Leggett recently read a paper before the New York Microscopical Society in which he said of his efforts that last spring, when the papers became quite active in a crusade against the mosquito, I read a short paper before this society in which I tried to give a synopsis of what was then known of the life, habits and internal construction of this insect. No fresh specimens were then to be obtained, but I became so interested that I resolved that when this pest made its appearance in the summer I would devote time and study to his internal construction.

Of course, I found this more difficult than I expected. It was one thing to hear a mosquito; another thing to catch it, particularly as it must not be injured, but killed instantly before its parts had time to contract. Then the alcohol in which it was to be hardened must be just strong enough to harden but not contract, and the paraffine must in some way be put into its body, so that the razor would not drag instead of cutting. However, patience and perseverance overcome most difficulties, and I have here the gleaned slicings of more than one hundred and fifty mosquitoes.

My first effort was with the main lance or labrum, which I cut in sections. I found it double; the two parts arranged like beams with a double angle, which, being placed together, left a square opening in the middle through its entire length. Of course, this explained how the blood entered the body. I then cut sections across the head, from the mouth to the neck, and found three tubes, one in the center quite large, and two others, one on either sidefl Cutting back I found the main opening went into the thorax, while the two others were flattened and attached to the back of the head and passed from there to the clypeus. These were the only openings through the head.

I then cut a transverse section through the center of the head, from the biting parts to the thorax, and found two bulbs connected by a tube. One of them was at the back of the head, quite large, dark brown, and formed of three pieces, while the other bulb was smaller, sloped downward and was transparent. Into this bulb was fastened the main lance or labrum. I then cut a head at right angles to the last and found that the larger bulb was attached to the sides of the head by muscles, while the smaller and transparent bulb was free. This large bulb, then, is undoubtedly the pump, one set of muscles being used to open, the other to close the bulb, thus drawing up the blood by air pressure.

The poison gland may be in the thorax and I may yet find it. But why should there be a poison gland? We are dealing with mouth parts, not with a sting, which is a weapon of offence and defence. Now, the question is the old one, How does the mosquito carry disease from person to person, as claimed, unless it be by the aid of the missing gland? Of course, if the pump sucks

there must be a valve to prevent its leaking when the bulb is contracted. No one reports ever seeing a mosquito leaking at the mouth, so the germ cannot pass out that way, because there is no thoroughfare.

How the poison gets into the wound is a subject of conjecture, and possibly a layman's guess is as good as another, and I venture to make one. The so-called poison, it seems to me, is the saliva, and is possibly used, as alleged, to inflame and enlarge the wound. It is forced down and out by the mechanical pressure exerted either on the clypeus or the smaller bulb by the forcing into the flesh of the main lance and setæ. This is, I think, rendered probable by the shape of the smaller setæ, where they join the smaller bulb and the clypeus.

While I was on my summer vacation many became interested in what I was doing, and I brought home many specimens of mosquitoes. I also discovered that in the case of eight adults and many children who suffered the mosquitoes to finish his feast there was neither swelling nor itch. Does the mosquito absorb its own poison when undisturbed?

PLEUROPNEUMONIA.

The man now under consideration is a sailor, forty years of age. He has had winter cough for some years. This has increased lately, and he has had chills, fever, etc. The condition found upon physical examination does not fit pleurisy with effusion or pneumonia, but resembles each. Hence we make the diagnosis of both or pleuropneumonia. There are signs of a great deal of effusion, and the question of operating comes up here. I have decided to not operate at the present. The patient is improving rather than becoming worse, and the effusion is probably a serous one at the present time. In my judgment, the patient in such a condition is better if the effusion is left alone.

As to the treatment, the first thing to be done is to keep the man strictly at rest in bed. Secondly, liquid food should be given in order that he may have rest in every respect even as regards digestion. Consequently, his diet consists of one pint of beef tea and three pints of milk every twenty-four hours.

As to drugs, five grains of the carbonate of ammonium and one-half grain of opium are given every four hours. One-half ounce of whisky has been given at the same interval, but this will not be continued long, as I do not see the necessity for its use in many of these cases. Cupping over the affected lung was applied once.

IRREGULAR HEART IN YOUNG MAN.

This patient is twenty-five, a stone mason, and a stout, apparently healthy young man. One month ago he had an attack of the grip, but recovered and was able to resume his work. Lately he has had vomiting, pain in the limbs, abdomen and epigastrium and particularly in the precordial region. He has also had some dyspnea. His temperature has been subnormal ever since his admission, going as low as 97⅕. The heart is very irregular, but is not enlarged, and there are no murmurs to be detected. The right radial gives a distinct feeling of high tension, while the left is practically normal. The question here is whether the man needs stimulation for his circulation or a reduction of high arterial pressure. If we would go by the right pulse alone we would give nitro-glycerin or aconite. The point to make here is the necessity of feeling both pulses before reaching a conclusion. Here we have a slightly stiffened artery on the right side, showing that changes which should come much later in life are already beginning in this man.

I think what he needs is rest, as there is something wrong in his general condition that is making him old before his time. The treatment then will be rest on his back in bed and liquid food, one pint of beef tea and three pints of milk daily. Some preparation of iron will be given, and in addition five minims of the tincture of digitalis three times a day.

IODIPIN.

Iodipin, the new substitute for the iodides, is attracting the widest attention, says Dr. G. Demetriade.[1] The reports of numerous investigators are uniformly satisfactory.

There are two methods of administering iodipin: Internally, from 2 to 6 teaspoonfuls of the 10-per-cent. solution daily for adults, and up to 2 teaspoonfuls daily for children; subcutaneously, the 25-per-cent. solution is to be preferred. The latter may also be given by the mouth, in capsules. Some authors have advocated enormous daily quantities of the remedy, and this will illustrate the tolerance of the stomach for iodipin.

The technic of the subcutaneous administration is very simple. Any syringe holding from ½ to 2 drams may be used. The solution should be warmed before use, in order to make it more fluid.

The site of the injection is the skin of the back, this being preferable to the gluteal region. The pain caused by the procedure is slight and transient, not lasting more than an hour. The hypodermic dose is about 2 to 20 c.c., to be repeated every second day. After ten to twelve injections, it is advisable to make a pause of several days. Besides these methods, inunctions with iodipin were employed with very good results. The use of the drug by the rectum has, on the other hand, not proved satisfactory.

How does iodipin act? It is absorbed and deposited as such in various parts of the body. Here the compound is gradually and slowly decomposed, free iodine is liberated and exerts its specific action. In evidence of the slow process of this decomposition, we may cite the fact that two months after an injection of the remedy, the urine has shown the iodine reaction. This comparatively slow elimination constitutes one of the chief advantages of iodipin over potassium or sodium iodide. The most grateful field for the employment of iodipin is, of course, tertiary syphilis. In numerous other diseases, it has, however, also given good results. Thus it has been used in asthma, bronchitis, pleurisy, tuberculosis, etc. Seldom have untoward after-effects been noticed, such as acne, diarrhea, coryza, headache, etc. This absence of iodism is another great point of difference between the old preparations of iodine and the new remedy.

—The Archbishop of Canterbury has for many years been one of the most prominent teetotalers in Great Britain, and has consistently advocated the abstinence from alcohol, which he practises. In a recent speech at the Temperance Hospital, therefore, it was natural that he should mention the position of patient and doctor in this respect. He said that if under a trusted adviser he was ordered alcohol as a medicine, he did not go so far as to say he would refuse it. If he could not trust his physician he would go to another. But the profession now does not say health cannot be restored without alcohol, and does not object to total abstinence.

—The German government has appointed a committee to determine by experiments the exact relation between human and bovine tubercle bacilli.

[1] *Klin. therap. Wochenschr.*, No. 27, 1901.

MISCELLANY.

—The New York State Medical Association has published in a very convenient form a medical directory of the states of New York, New Jersey and Connecticut, including societies and hospitals.

—According to a statement in the *Medical Century*, Charles H. Dietrich, the newly elected governor of Nebraska, has expressed himself as follows: "One thing I will say, for the benefit of the medical fraternity, and that is, that I have decided to put one of the two hospitals for the incurable insane at Lincoln and Norfolk under the direction of the regular school of medicine and the other under the homeopathic school. All I insist on is that the best representatives of each be subject to my choice for appointment as superintendents, so that we may have a fair test of the two methods of treatment and that the competition will give the inmates the best possible care and attention."

—The consumptive wards in St. Luke's Hospital are to be abolished. The consumptive pavilion in connection with the Metropolitan Hospital will probably be opened this fall.

—The case is a woman of thirty-three who comes with a history of persistent vomiting for some time. She thinks she is nine weeks pregnant, and there is some evidence of renal disease present. It is difficult to decide in this case whether we have to deal with the nausea and vomiting of pregnancy or whether it is due to some other condition. So far as the treatment of this symptom is concerned, however, it makes no difference as to the cause at present.

My idea is that when there is persistent vomiting the patient had better take food at regular intervals even if it is all rejected soon after. Vomiting occurs any way and there had better be something to vomit than to have retching with an empty stomach. The first thing to do then is to fix upon a certain quantity of food and to give this at definite intervals. In this case I gave one and one-half ounces milk, one-half ounce lime-water and one dram of whisky every two hours. In the way of drugs, chloroform two minims, morphine one-thirty-second of a grain, and compound tincture of cardamom one dram, was given every two hours. Instead of giving the food and medicine at alternate hours, as is so often done, the food was given, and then in fifteen minutes the medicine. This gives the patient one and three-fourths hours' rest between the times that anything is taken, and is the plan much to be preferred.

This patient took the above treatment from the third to the ninth day after her admission. She was then enough better to be given a soft egg, some broth and a bit of dry toast. These have been retained and the case shows a good degree of improvement.

Professor W. F. Loebisch, director of the Laboratory for Applied Medical Chemistry at the Imperial and Royal University of Innsbruck, in a discourse held before the Medical Society of that city, published in the *Wiener Medicinische Presse, Nos.* 27 and 28, 1901, details at length the results of his experimental researches upon the influence of Urotropin upon intestinal decomposition. In spite of the demonstration of the inhibitory influence of the drug upon the development of the bacterium coli by Nicolaier, and of its destructive effect upon typhoid bacilli in the urine by Richardson, a direct influence of the urotropin ingested upon intestinal fermentation itself was not thought of. Loebisch himself had his attention called to it quite accidentally. He was examining the urine of a man who was well nourished and upon a mixed diet, and who was taking urotropin to the extent of 0.5 to 1 gram (7½ to 15 grains) daily for a posterior urethritis, and found that neither by Jaffé's or Obermayer's test could he get any reaction for indican. Now the presence of this substance in the urine is one of the most accessible and reliable indications of the occurrence of bacterial intestinal decomposition, and he was thus led to investigate the action of the drug upon these ordinary enteric changes.

—Under the title of "The Internal Treatment of Anthrax," Dr. Fischer, Army Surgeon-in-Chief, Dresden, Germany, records a case in which there was a large anthrax carbuncle occupying the entire right half of the face, and which had been present for three days. There had been repeated chills and high fever; the general condition was bad, and swallowing was difficult. The patient being a sturdy young man, and under hospital supervision, an immediate operation was not done. An intravenous injection of 5 grams (75 grains) of a 1 per cent. solution of collargolum was administered. His condition improved for several hours, and then became worse than it was before. After the second injection the improvement lasted longer, and after the fourth (he received one injection daily) it became normal. It was especially worthy of notice that no deep necrosis occurred; the board-like induration was entirely absorbed, and fourteen days later only a small superficial scab came away. Anthrax bacilli were repeatedly demonstrated both in the carbuncle and in the patient's blood. He had no other treatment. The case was apparently a hopeless one; and the brilliant, rapid and typical improvement can only be ascribed to the intravenous injection of the collargolum, which had absolutely no disagreeable by-effects.

—The woes of a titled invalid in search of an appropriate specialist are detailed in the following verses, by J. B., quoted in the *St. George's Hospital Gazette*, from the London *Lancet:*

A tumor he developed on
A spot that's quite neglected;
No specialist for just that point
He anywhere detected.
So curiously was it placed,
That, search from toe to crown,
You saw it not when he stood up,
Still less when he sat down.
From day to day the swelling grew,
So vast became that tumor,
You could not say which was the growth
And which Sir Francis Boomer.
And so at last it finished him,
Despite his numerous staff,
And he explained the cause of death
In this, his epitaph:
"My ailment could not treated be,
The times were out of joint;
There was no specialist upon
The perineal point.
"Some doctors find their work before,
And some their work behind,
But none devotes attention to
The spot which I've defined."

ORIGINAL ARTICLES.

A RESUME OF THE THEORIES OF IMMUNITY AGAINST INFECTIOUS DISEASES WITH SPECIAL REFERENCES TO THE WORK OF VAUGHAN.

BY M. SHELLENBERG, M.D., PHILADELPHIA.

THE great progress made in the past ten years in the line of production artificially of immunity against infectious diseases has stimulated bacteriologists, clinicians and pathologists to further work. A résumé of the present status of this work may be in order.

Undoubtedly, living protoplasm possesses the God given power of a natural immunity against bacteria and poison. Were this not so the human race would soon be swept from the face of the globe. For thousands of years man has been in total ignorance on this subject, and hence helpless to guard against these forces in any scientific or methodical fashion. Yet the race has increased steadily in numbers over the entire world.

Metschnikoff, in a recent work, has summarized this advance in a forcible manner, as follows: "Taking a broad view of immunity, the sensibility of living protoplasm is found to be a factor noticeable everywhere, in natural as well as in artificial immunity, against poisons as well as against microbes, and in the simplest unicellular and multicellular organisms as well as in the higher animals, including man. The same forces which enable a bacterium or a yeast to adapt itself to the presence of originally harmful substances, or which permit a plasmodium to wander into salt or sugar solutions that it previously avoided, are also at work in the higher organisms when they accommodate themselves to the pathogenic products of bacteria. An inherited insusceptibility to toxines, as well as an inherited diminution of susceptibility, must be regarded as a well-proved fact. The faculty of adaptation is probably common for all cells of lower as well as higher animals. This becomes evident in the highest psychical functions of the human soul and in the simplest manifestations of life in the lowest beings. In immunity of poisons different elements are at work which, at the present time, cannot all be definitely characterized. In immunity to living bacteria, the essentially active cells are to be regarded as phagocytes which incorporate living and virulent microbes, prevent their pathogenic action, or destroy them completely, so that they are rendered definitely harmless. It is also probable that phagocytes are not entirely indifferent in respect to toxins, but this rôle cannot as yet be definitely outlined. It is self-evident that in their 'struggle' against causes of disease, the phagocytes are aided by a number of secondary influences that are injurious to bacteria. Such accessory factors, oftenest observed in artificial immunity, must not, however, be looked upon as absolutely unavoidable or essential conditions.

"The manifestations of sensibility are the controlling elements in the functions brought to light in immunity. Living cells, guided by their sensibility, approach or flee from pathogenic microbes, take up the microbes or not, and to this are added intracellular processes, in part of purely chemical nature, such as digestion, incrustation, etc. The complicated interplay of biological and chemical functions of living cells results in the evident manifestations of immunity. This doctrine of immunity as now formulated is, of course, far from exhausting the problem."

Other workers have done much in this field. American medical men have advanced the work equally with their foreign brethren. An interesting side light on this subject has been worked out in the Johns Hopkins laboratory.

Rattlesnake Venom Destroys the Bactericidal Properties of the Blood.—Dr. W. H. Welch has reported the interesting results of experiments which he made to determine the action of rattlesnake venom upon the bactericidal properties of the blood. He procured the venom from a living rattlesnake in a sterilized saucer, according to the method which was recommended by Weir Mitchell. He then injected this venom in various sized doses, subcutaneously, into rabbits, which died in from one-half hour to four hours' time. Immediately after death the blood was withdrawn by means of a sterilized glass pipette from the right auricle and posterior vena cava, about 6 to 10 c.c. being readily obtainable in this way. At the same time blood was obtained for a control experiment from a healthy rabbit. In other cases the blood of the animal, before it was poisoned by the venom, was previously tested as to its bactericidal power. After standing twenty-four hours in the refrigerator, 1 to 3 c.c. of the venom serum and of the normal serum was pipetted off into sterilized test tubes and inoculated with the bacteria to be tested. The bacillus coli communis and the bacillus anthracis were used for this purpose. Roll or plate cultures in gelatine or in agar were made in the usual way to determine the number of bacteria inoculated into the serum and at varying intervals of time up to one week to determine increase or diminution of the bacteria planted in the serum. The experiments showed that the blood serum of rabbits killed with the venom was nearly or entirely devoid of the power of destroying the bacteria used for the experiments, whereas the normal serum was capable in a few hours of destroying thousands of these bacteria.

These experiments give explanation of the rapid development of post-mortem decomposition following death from snake bites.

In a subsequent paper I will take up the subject of the germicidal power of the blood itself more in detail.

As pointed out by many observers, immunity may be natural or acquired. On the one hand, natural immunity may be peculiar to the species, or to the individual. An example of natural immunity given by Vaughan is that of the domestic fowl to anthrax. As has been shown by Lazarus and Weyl, the chick, even at the time of coming from the shell, is immune to the most virulent culture of the bacillus anthracis. It is true that this animal may be made susceptible to anthrax, but this an artificially-induced susceptibility. The immunity is natural to this bird at every period of its life. Another example of racial immunity is that of the frog to anthrax. This animal can also be rendered susceptible, but again it is true that the susceptibility is artificial and the immunity is natural. Racial immunity must be inherent in the parent cell.

Vaughn in his masterly work on this subject has demonstrated that the natural immunity, which is peculiar to the individual, usually comes with adult life. He shows that the young are susceptible to a given disease, but adults of the same species lose this susceptibility and become immune. For example, the young rat has been found susceptible to anthrax, while the adult is naturally immune, although it can be rendered susceptible by exhaustive exercise. Again the human child is highly susceptible to scarlet fever and diphtheria, while the adult, though not wholly immune to these diseases, loses very much in susceptibility and becomes

infected only when greatly reduced in vitality or after prolonged and aggravated exposure to the poison. This immunity is inherent in the parent cell and comes on as naturally as do the changes in form and voice at puberty or the growth of the beard in early manhood. The cause of the difference in the effect of the anthrax bacillus on the young rat and that of the same germ on the adult rat exists in the rat and not in the bacillus. A child and an adult are exposed to the Loffler bacillus from the same source; the former becomes infected, the latter does not. The germ is the same, but in the development that converts the child into the adult, the resistance with which the germ must contend has been strengthened. The immunity that comes with adult life must be due to altered cell activity.

Again Ehrlich has pointed out that immunity from poisoning with the vegetable proteids, abrin, ricin, and robin, is transmitted from the mother of the fetus and retained by the latter for more than a month after birth, when it is quickly lost, and that the second generation fails to show any immunity. From this data he concludes that there are two kinds of immunity: One he calls "active," the other "passive." The immunity that he found to be transmitted, as already stated, from mother to child he classifies as "passive," and thinks that it is due to the transmission of ready-formed antitoxins from the mother to the child and that these antitoxins being soon eliminated the immunity is lost. In "active" immunity he supposes that the body has acquired the property of manufacturing the antitoxins. He also demonstrates that immunity may be transmitted from the nurse to child when the latter has come from a highly susceptible mother.

Vaughn criticizes this theory by pointing out that the division of immunity into an active and a passive form is convenient and plausible, but Ehrlich's active immunity must be cellular in origin. Can any chemical products be elaborated in the animal body except by the activity, either direct or indirect, of cells? The most earnest opponent of vital energy—which now means cellular activity—admits that the active principles of the digestive juices are the products of specialized glands, and even the absorption of the products of digestion, which we once believed to be effected in accordance with the comparatively simple laws of osmosis, is now known to be dependent upon cellular activity. But can it be said that the temporary immunity that is transmitted from mother to child or from nurse to nursling is of cellular origin? The mother and the fetus are physiologically one, and the same is true of the nurse and the nursling. The blood of the mother flows through the fetus, and the products of the cells of the nurse feed the nursling.

The term "phagocytosis" is applied to that theory which is most prominent, which attributes the whole protective power to the blood serum. The old idea of immunity—which was that it was "exhaustion of the soil"—has been almost completely discarded; unfortunately so, perhaps, for, reasoning by analogy with the higher vegetable growths, it is more than possible that this may eventually demonstrate itself to be a most important factor.

In discussing this subject we must remember that while bacteria may be the cause of a disease, yet its symptoms are due to the toxines produced, and therefore the destruction of these products, while causing an abatement of the symptoms, may still have no effect upon the bacteria, and may not be at all concerned in the production of immunity. Also a destinction must be made between the action of blood serum and that of blood plasma, for it has been demonstrated that while serum may be strongly bactericidal, yet in the plasma from which the serum was drawn the bacteria may flourish luxuriantly.

The methods of producing artificial immunity are various. The knowledge that we have acquired of the production of immunity is briefly this. The introduction into the blood of animals of immune blood, of attenuated bacteria, or of the products of bacterial growth may render these animals unsusceptible afterward to a disease.

1. Until the discovery of vaccination, the only known method of producing immunity was by having the disease, and at present it is the most powerful factor. It is known that this is overestimated as regards the period of time through which immunity thus obtained holds good. For example, a man may have smallpox the second time, if several years have passed since the first attack, and he comes in contact with a highly virulent form of the infection, especially if his health is much impaired.

It looks as if the rule were true, that the more grave and virulent the disease, the greater and more persistent is the immunity that follows. The only disease in which such protection has been a perfect success is smallpox and here vaccination was stumbled upon and its processes are even yet not understood. Hydrophobia has been treated by a process similar to vaccination but here the success is somewhat doubtful.

Next by vaccination with a modified form of the infection an artificial form of immunity is acquired.

Pasteur successfully inoculated against chicken cholera and anthrax, being really vaccination with a modified germ, and the valuable investigations of Emmerich and his students in immunizing certain animals to swine erysipelas have demonstrated the results that may be introduced into the body, and here again it is also true that the more potent the cause the greater and more persistent the effect. It is true that the immunity that follows inoculation with a germ of full virulence is more marked and extends through a longer period than that which is induced by a vaccine.

Still a third method has been by the use of sterilized cultures of the germs. Immunity against the germs of typhoid fever, measles, pneumonia, cholera, diphtheria, tetanus, hog cholera, and several other diseases, has been secured by one or more treatments with sterilized cultures of these germs.

We have been shown by the teaching of some of the German investigators that each pathogenic germ produces both toxins and a special immunizing substance or antitoxin. It supposes that each germ, while elaborating its harmful products, also produces a substance that will prevent its growth.

The Injection in Pneumonia and Typhoid Fever of Serum from Convalescents.—Hughes and Carter published some years ago a series of articles on this subject which attracted much attention. They were attracted by the investigations of Klemperer in pneumonia to the following facts:

Animals can be immunized by the introduction into their blood of the sterilized products of the diplococcus; heating these products to 140 degrees F. hastens the process; this immunity is conferred only after the lapse of some time and is attended by fever; the introduction of immune serum confers immunity immediately.

Carter and Hughes injected a series of 13 cases. They were selected carefully as being typical and taken at a time when there would be a little danger of confounding the result obtained from the injection with

the natural crisis. In all serum was used, which was obtained most frequently by venesection, occasionally by blistering. The serum was injected subcutaneously, this having been found to be as efficacious and less dangerous and troublesome than intravenously.

In the light of their experience with the first case injected, together with the results in other published cases, they confessed to a most distinct disappointment. In cases 1 to 10 the serum used was apparently as perfect for its purpose as could be wished. It would be a useless expenditure of space and time to particularize the cases whence the serum was obtained; a careful study of them has enabled me to formulate no rules governing its irregularity of action. Suffice it to say that they were all cases of undoubted and typical pneumonia, in every one of which the presence of virulent diplococci had been established. In none of them was the interval which was permitted to elapse between the crisis and the taking of the serum more than two weeks; in many of them it was less. Having these serums, then, obtained under identical circumstances, it was surely to be expected that perfectly regular and definite results would follow their use, but the event proved otherwise. While some of the cases were marked successes, others showed equally pronounced failures. Thus, of the nine cases only five could be claimed as distinctly proving any effect due to immune serum. In another (Case 5), while a crisis did occur following the injection, yet the time that elapsed before its completion (thirty-six hours) renders it doubtful that this effect was due to the serum, and the fact that an early crisis is not at all uncommon in children strengthens this doubt.

Of the three cases where no result was shown, they were tempted to explain the at least partial failure by the fact that they occurred in negroes. Seeing that the diplococci in a negro's sputum seem to be so distinctly more virulent than those in the sputum of a white man, it may be imagined that the same holds good in the lungs and that a larger dose of antidote would be required. It is possible that had the first dose been larger or been followed by others a conclusive result would have been obtained. It seems to be a fact, judging from experiments upon lower animals, that the more virulent the bacteria the less easily antidoted is their toxine. But if the failure here was due to exceptional virulence of bacteria and, consequently, large amounts of toxine we should expect an exceptionally pronounced immunity, granting that toxines have anything to do with immunity. From a careful study of the case, in the light of the symptoms and of the post-mortem examination, Hughes was strongly of the opinion that such explanation is not sufficient, and the case must be classed as an unquestioned failure. In the ninth case no explanation whatever of the failure can be offered. Everything was favorable to the action of the serum. The man came under observation immediately after the initial chill, the general treatment was carried out under most favorable auspices, the quantity of serum used (110 c.c.) was certainly large enough, and yet blank failure resulted—immune serum did not antidote the toxine.

That the irregular results were due to causes inherent in the persons of those injected, essential variations in disease processes, or subtle radical differences in constitution, and not to faulty conditions of the serum, is proved by the fact that different results attended the use of the same serum. Thus Cases 2 and 3 had the same serum—2 was a success, 3 a failure. Again, Case 4 showed a pronounced success, 5 a doubtful result.

The lack of action of immune serum in certain cases might be explained on the assumption, 1, of a quality of diplococci causative of the pneumonia; 2, of a variation in the toxines; 3, of the inadequacy of the antitoxic theory to fully explain the cure of pneumonia and the subsequent immunity.

(1) *The Quality of the Diplococci.* While they are still not perfectly familiar with the life history of the specific cause of pneumonia, yet what work has been done, and comparison with other specific diseases render this hypothesis only remotely probable.

(2) *Variation in the Toxines.* Bacteria in the course of their growth produce at least three distinct classes of poisons, the individual action of which is not definitely understood. These toxines being somehow instrumental in the production of the fever, it is on their neutralization or disappearance that the end of the fever depends. But these toxines are constant concomitants of the growth of bacteria, and while, under differing conditions of inherent qualities or environment, it is possible that the toxines are secreted in varying proportions, yet it is not likely that the average proportions would ever be so rudely disturbed as to lead to total failure of a neutralizing agent to act. The toxines must always be the same. It requires too violent a stretch of the imagination to conceive that under practically identical conditions of production in some few aberrant cases an entirely unusual toxine had been substituted. Therefore this hypothesis is not to be entertained, and this then brings us to consider:

(3) *The Inadequacy of the Antitoxic Theory.* This theory proposes a purely chemical action, and, granting that there is a single specific cause for pneumonia and that the toxines produced are always the same if there be a definite antipneumotoxine, must not its action be the same in all cases? Let me draw attention here, again, to the probable difference between cure and immunity: Cure, or the disappearance of fever, means the destruction of the fever-producing toxines; immunity, the impossibility of bacterial growth or failure of secreted toxines to produce deleterious effects. Are these two conditions necessarily identical? I am driven to the conclusion by consideration of these cases reported that they are not; the neutralization is merely a step in the production of immunity, and its causes will have to be sought deeper down. At the same time there may be a neutralization of poison by substances in the immune serum; but these substances may exist only in the serum and not in the plasma, and really not be concerned in the production of immunity.

While, therefore, it cannot be doubted that immune serum may have a most pronounced effect, yet the irregularity of its action certainly suggests strongly that there are important factors other than the antipneumotoxine concerned in the production of the crisis and the subsequent immunity. What these factors may be it is impossible to indicate, but it would seem probable that they are to be found rather in some condition of the cells than of the serum.

The first 10 cases, only perfect serum was used; the other cases were injected with serum which might be supposed *a priori* to have a less definite effect. In Cases 11 and 12 and in the first injection in Cases 13 and 14 the serum was obtained from a case of abortive pneumonia, the crisis having occurred on the third day. The case was one of unquestionable pneumonia, diplococci being present in great abundance in the sputum. Such abortive pneumonia can be best explained by the incidence of pneumonia in a case almost but not quite immune naturally, and were the antitoxic theory correct,

one should expect a most marked effect, instead of which the results were all purely negative except in Case 10, where the result was at least doubtful. This would bear out what has previously been found to be the fact, that naturally immune serum does not protect and strengthen the hypothesis of different methods for the production of immunity.

In Cases 13 and 14 the serum used was obtained from Case 1—the negro—five weeks after his crisis. Within two weeks after his crisis he has been bled and the serum used with a successful result, but in these two cases the result was negative; therefore, if these two cases prove anything, serum, which was at first actively protective, may lose its antitoxic power after the lapse of five weeks.

From a therapeutic standpoint the results of the injections are disappointing. In the ten cases where perfect serum was used there were three deaths. As this is certainly not less than the ordinary death rate in pneumonia, as a treatment, purely, of pneumonia serum-injection would scarcely commend itself. With the imperfect serum the death rate was about the same, one in four.

The injections are, however, if carried out with proper precautions, perfectly harmless. In none of the cases, either of pneumonia or typhoid fever, were any bad general effects noted. In two cases, 13 and 14, there was local inflammation following the injection, but as the serum used was obtained from one man at the same time, and as, owing to the fact that it was not obtained under personal supervision, it was in all probability contaminated, this result might have been avoided. One word of caution here about the serum—it must not be obtained from a case where there is any suspicion of kidney-lesion, for Hughes found that serum drawn from victims of Bright's disease is capable, when introduced intravenously into dogs, of producing nephritis.

Stern has found that white mice injected with a mixture of typhoid bouillon with serum from a recent convalescent from typhoid fever survive, while those treated with unmixed bouillon die. This would seem to indicate some antidotal properties in the serum. Though it is scarcely to be supposed that from two diseases so dissimilar as typhoid fever and pneumonia the same result would be obtained by the injection of immune serum, yet the following experiments were undertaken with the hope that some effect would become apparent. The serum obtained was from convalescents in whom somewhat less than two weeks had elapsed since the end of the fever. It was obtained by means of venesection.

These cases selected by Hughes were none of them especially grave and would certainly have recovered in the natural course of events. The type of typhoid fever prevalent was mild and irregular, and these cases were selected as being the gravest and most typical obtainable at that particular time. Some of the companion cases ended as early as the end of the third week, and it may be that the cases above recorded ran a normal course uninfluenced by the injections.

The Introduction of Nuclein.—Taking up the work of Vaughan we find more brilliant results. He found that Fraenkel states that the toxic and the immunizing substances produced by the diphtheria germs are two distinct bodies, the former being destroyed by a temperature of from 55° to 60° C., while the latter will bear a temperature of 70° C. or higher. He recommends that the cultures, sterilized by filtration through porcelain, be heated to from 66° to 70° C. and then be used in the production of immunity. However, he admits the possibility that the toxic substance may be converted into the immunizing body by the effect of the heat in lessening the virulence of the former, and there are many reasons for believing that this is the true explanation.

Another set of experiments by Brieger and Wassermann were studied by Vaughn; these observers produced in guinea-pigs a certain degree of immunity from cholera by previous treatment with bouillon cultures of the germ heated to from 65° to 80° C. Shall we conclude from this that the cholera germ elaborates a special immunizing substance? Wassermann has shown that the immunizing substance in sterilized cultures of the comma bacillus is contained in the germs themselves and is identical with the specific proteid poison of this germ. In other words, the substance that in larger doses kills, in smaller doses gives to the animal immunity from the living germ. Vaughn thinks that we can answer the question as to which constituent of sterilized cultures gives immunity with considerable confidence if we recognize the following facts:

(1) Marked artificial immunity to an infectious disease has not been obtained except by the introduction into the animal of the germ substance, either inclosed in the cell wall or in solution.

(2) Sterilized cultures contain the germ substance in one or both of these forms.

(3) The same immunizing substance exists in the bodies of bacteria grown on solid media and killed by the action of chloroform.

(4) The same immunizing effects, varying, however, in degree, are obtained with the bodies of dead bacteria morphologically intact or in solution, with living bacteria modified and reduced in virulence, and with very small numbers of the virulent germ.

With these demonstrated facts before us, Vaughn believes that the immunizing substance is a constituent of the bacterial cell itself; and as each kind of germ has its own peculiar poison (which in small doses confers immunity), this poison can not come from the cell wall; nor is it really a split product of the germ's action, but it is the essential characteristic part of the cell—that part which gives to the germ its distinctive properties. He believes that it is the "nuclein."

The three methods of inducing immunity which we have mentioned reduce themselves accordingly to one and the same principle—*i. e.*, the introduction of germ-nuclein into the body.

This is explained in this way: The immunity that results from an attack of the disease is caused by the introduction of germs, living and more or less virulent; that which comes from vaccination is due to the introduction of germs, living but modified and reduced in virulence or administered in small quantity; that which is secured by one or more treatments with sterilized cultures is secured by the introduction of germ nuclein so modified that it is no longer capable of reproducing itself.

Taken on this basis it is evident that the production of immunity from disease becomes analogous to that which Sewall obtained with the venom of the rattlesnake, and Ehrlich with ricin and abrin. Indeed, the venom of snakes, the poisonous vegetable proteids, abrin, ricin, and robin, and the cellular proteids of the pathogenic germs, have undoubtedly characteristics in common. For example, all are proteids, intensely poisonous; they lose their poisonous properties on being boiled in aqueous solution; different species of animals vary in their susceptibility to these poisons; they are much less poisonous when given by the stomach than when injected hypodermatically (the difference in the amounts necessary to produce fatal effects when admin-

istered by these different avenues being much greater than with either the vegetable or the putrefactive alkaloids). The immunity which is secured by all these substances is gradually lost. A further resemblance between the vegetable and the bacterial poisonous proteids is to found in the fact that immunity to one of these substances obtained from a given source does not confer immunity to another from a different source. An animal rendered immune to ricin is still susceptible to abrin, and one rendered immune to tetanus remains susceptible to diphtheria.

Behring was able to make 40 per cent. of the animals experimented upon immune to tetanus and diphtheria by previous treatment with small amounts of cultures to which iodin trichlorid had been added. This is also most probably due to the fact that the chemical compound modified the bacterial proteid. Behring himself gives this explanation. He also states that it is a matter of indifference whether he employed cultures containing bacteria or those that are germ free. By this latter he means cultures in which the germs have been deprived of their vitality or from which they have been removed by filtration. In either cases the cell proteid of the germ is present, either in the form of cells or in solution, and this cellular proteid is the agent that induces immunity.

(5) By treating a susceptible animal with the blood serum of an immune animal.

Strange as it may seem, the principle upon which immunity is secured when the blood serum of an immunized animal is injected into a susceptible one is essentially the same as that which holds good in the methods already discussed. A horse is rendered immune to tetanus by previous treatment with the modified bacterial proteid of that disease. As a result of these treatments a tetanus antitoxin is generated in some organ or organs of the horse and circulates in its blood. When the blood clots, this antitoxin is found in the serum, and if the serum be injected into a mouse in sufficient quantity, this animal becomes for the time being immune to the tetanus poison, provided that the poison is not introduced in quantities so large that it will not be destroyed by the antitoxin that has been brought over from the horse.

Vaughan explains this clearly as follows: The immunity actually does not belong to the mouse. It still belongs to the horse. It is stolen property, and will soon be lost. The cells of the horse, not those of the mouse, make the antitoxin. The mouse for the time being becomes physiologically a part of the horse, and it is by virtue of this relationship that the former is for the time being immune to tetanus.

The quantity of blood serum that must in this supposed case be transferred from the horse to the mouse in order to give immunity to the latter will depend upon the relative weight of the animals and upon the degree of immuntiy possessed by the horse; and the degree of immunity induced in the mouse will be governed by these same factors.

Subsequent inoculation of the mouse with the tetanus nuclein, in order to prove its immunity, may awaken the cell activity of this animal, and then the immunity belongs to the mouse; but this is not true before the introduction of the germ. It is due to Behring to say that he understood this point and has given this explanation.

The efforts of Vaughan to produce an active nuclein was directed first to compressed yeast, but he found that this substance contained a large amount of water and starch. The large proportion of the first-mentioned constituent caused a very small yield of nuclein, and there were many difficulties in this complete separation of the starch. There were, however, two other and more serious objections of the use of compressed yeast. The first of these is due to the fact that such yeast contains bacteria, and the task of preparing an active nuclein from it is similar to that of obtaining the same substance from pus. The second difficulty lies in the fact that compressed yeast contains many dead cells, while an active nuclein can be obtained only from living, healthy cells.

Next, he attempted to prepare an active nuclein from the ordinary brewer's yeast. But he found this also contaminated with bacteria. At last, he obtained unlimited quantities of pure cultures of yeast, and with the aid of Drs. McClintock and Novy he succeeded in preparing active nuclein not only from yeast but from several organs of the body as well.

Dr. Vaughan summarizes his result as follows: There must be three factors in the production of immunity in an animal naturally susceptible. *First*, there must be an inciting or immunizing substance introduced into the body. We are acquainted in a rough manner with the nature of some of these substances, such as the venom of the snake, the vegetable proteids, abrin, ricin and robin, and certain bacterial proteids.

Vaughan calls these proteids, although recognizing that their exact chemical nature is unknown. Physiologic chemists do not always classify the nucleins among the proteids, but among the albuminoid bodies. These substances, be they nucleins, proteids, or albuminoids, have the property, when introduced into the bodies of certain animals, in certain amounts and under certain conditions of so stimulating the activity of certain organs in the animal that these organs produce and supply to the blood an antidote to the substance introduced.

Secondly, the organs whose activity is stimulated by these immunizing agents are those, such as the spleen, thyroid gland, and bone marrow, which manufacture nucleins.

Thirdly, the antidotal substance is a nuclein. The kind and amount of nuclein formed will depend upon the nature of the inciting agent and the condition of the organ or organs acted upon.

Vaughn uses the word "nuclein" in a broad sense, including the true nucleins, nucleinic acids, and nucleoalbumins. "Nuclein" is that part of the cell which under normal conditions is endowed with the capability of growth and reproduction, which assimilates other proteids and endows these assimilated substances with its own properties. *It is that part of the cell which gives it its individuality.* Whether these nucleins, while in solution and devoid of morphologic unity, are still capable of assimilating allied bodies or not, can not at present be positively determined.

The activity of these certain cells destroys the toxin. To accomplish this destruction it is probably not necessary that the poison should come in contact with the cells. We can explain the process of immunizing an animal proceeds in something like the following manner: The modified virus of tetanus is introduced into some distant part; in some unknown way the spleen is stimulated to action and secretes a "nuclein" which is carried partly in solution, partly in the form of multinuclear cells, to the invaded part of the body, and the tetanus poison is converted into the nuclein coming in contact with it, or is otherwise rendered inert. Later a larger quantity of the tetanus poison is introduced, and now the spleen acts more promptly and energetically than before. This promptness and energy of action are increased by exercise, and finally an amount of tetanus-culture, of full virulence sufficient to kill an animal

whose spleen has not been subjected to this training, may be introduced without ill effect. On this theory the production of immunity consists in a special education of certain cells, and artificial immunity becomes essentially cellular.

The difference between immunity and tolerance he conceives to be this: In the former the cells of certain organs became aggressive; a special function is developed; the poison introduced. In tolerance, there is no aggressive action on the part of any organ; there is no development of special functions; the poison introduced is not destroyed; it only fails to kill.

Vaughan thinks that there is an essential difference between the principles of immunity and those of cure. In the first place, the substances with which immunity is induced are not applicable in the production of cure. They are already in the body and have failed to stimulate the nuclein-forming cells in such a manner as to cause their own destruction. To introduce more of the bacterial poison after the invading virus has established itself in the system will only strengthen the invader. No disease, after being well developed, has been cured by the administration of the bacterial poison. While vaccination, first performed after exposure to smallpox, may altogether prevent the development of the disease, or may modify it, this is not cure. Just think, of what service would vaccination be when the body is already covered with smallpox pustules.

Koch attempted to cure tuberculosis by introducing the proteid of the specific bacillus into patients. We know now it was simply an impure toxin. This was a mistake, because this proteid in living, virulent form is already present in the patient, and, indeed, is the cause of the disease. Immunity to tuberculosis has been tested by nature in each tuberculous person and has been found wanting. Some step in the process has failed. Either the poison was first introduced into the body in a form too virulent to be resisted, or the cells of the body have been unable to act with normal energy.

If Vaughan is right concerning the difference between the agents of immunity and cure, to what source shall we look for curative substances in the infectious diseases? Either we must introduce into the body some germicide formed by other cells, or we must employ other agencies for the purpose of stimulating the nuclein-forming cells. Blood-serum therapy offers the first of these alternatives, and now that we know that the germicidal constituent of the blood is a nuclein, blood-serum therapy will give place to nuclein therapy, and with the latter there is more hope of accomplishing good results, because it reduces the size of the dose.

We must look for the germicides of cellular origin for good effects. We know now that there is no known chemical substance which can be introduced into the animal body in sufficient quantity to effect a cure by its germicidal action without doing harm. Time after time the discovery of a non-poisonous, powerful germicide for internal use has been announced, but experience has invariably shown either that the substance is poisonous or that it is not germicidal. This universal experience of the profession has been scientifically demonstrated to be a fact by the researches of Behring, who, after a large number of experiments, came to the conclusion that, computed on the body weight of the animal, antiseptic substances reach a fatal dose when injected in absorbable form under the skin in one-sixth the amount which is necessary to prevent the development of the anthrax bacillus in the blood serum.

But if we believe that the animal body itself generates a germicide more powerful in its action than corrosive sublimate, and since we know how to increase the amount this substance in the blood, and can isolate it and inject it into other animals, a great field of activity spreads before us.

One advantage which "nuclein therapy" will have over blood-serum therapy is to be found in the fact that it may enable us to employ the active substance in larger doses.

We must consider quantity as well as quality in producing immunity and cure. No bacteriologist now claims that a single bacillus of the most virulent kind introduced into the most susceptible animal can produce illness. The body is not merely a culture flask, in which germs grow without meeting with any resistance. His folly to hope, however, that when the germs of tuberculosis have gained the ascendency, and are multiplying by the millions daily, to find a "tuberculin" which, in doses of the fraction of a miligram, will, within a few days, or within any period of time, destroy this great mass of living, growing poison. The miraculous effects of small doses need not be looked for. These will have no place in the therapy of the infectious disease by the introduction of a germicide or a toxicide formed by other cells than those of the infected person, then we may expect that cures for diseases of this kind will be found in the near future. Experimentation offers the only means of ascertaining whether or not this possible.

As Vaughan points out, if "nuclein therapy" fails us, we must strive to find agents that will stimulate the nuclein-forming glands. This probably is the chief factor in the climatic treatment of tuberculosis, but so far our knowledge of how this is accomplished we are largely ignorant, while the field of special cellular therapeutics lies before us a terra incognita. Important discoveries in this direction are not likely to be made soon.

In a subsequent paper will be taken the application of these general principles to the different diseases.

THE VARIOUS THEORIES OF THE INFECTIOUS NATURE OF CARCINOMA.

BY GEO. R. WILSON, M.D., PHILADELPHIA.

THIS has been one of the most interesting and puzzling subjects which has ever engaged the attention of the clinician and the pathologist. For seventy years medical experimenters have been working diligently at this subject. As long ago as 1840, Langenbeck injected a mixture of carcinomatous tissue and dog serum into the vein of a dog, which subsequently developed carcinomatous nodules in the lung. This was reported at the time, but Virchow was able to throw so much doubt upon the results of Langenbeck's methods that his work was discredited. Ten years later Follin and Lebert found cancerous formation in the heart and liver of a dog into whose jugular vein juices from a mammary cancer had been injected, but no macroscopical examinations were made, and these results were considered of little value. In 1867 Goujon claimed to be successful in producing carcinomatous tissue in dogs by the inoculation of cancerous material, but again the microscope was not used to confirm the appearances.

Twenty years later, in 1887, Shattuck and Balance, in remarks upon the parasitic theory of cancer, reported a series of experiments with cancerous tissue which were negative in their nature. Klebs in 1890, in a very thorough paper upon the various cancer inoculations, failed to produce a single tumor. He found that the

fragments of tissue introduced were absorbed with no other change than hyolene degeneration being observed in them. Later, Senn in his *Surgical Bacteriology* mentions Bilroth, Mass, Doutrelepont, Senger, and others as having failed in their inoculation, and in his own observations, which were made upon dogs, cats, rabbits, and guinea-pigs, found nothing but a failure of the graft to increase in size.

There are a great many arguments on both sides of this question. In the first place, it has been shown that normal resistance in the average individual prevents parasitism. Location also has an important bearing upon parasitic infection, for some points are more vulnerable than others. It is known that traumatism bears a direct relation to the entrance of parasites into the tissues. Van Cott believes that if these conditions can be shown to be related to cancer this form of tumor should be regarded a priori as probably of parasitic origin. According to the belief of this observer this theory is a strong one. He says in this connection:

"The experiments of Waterhouse and others go to show that, so long as the healthy tissues have not been devitalized they have the capacity to resist the action of pyogenic and other germs to an astonishing extent; but that when the tissues become damaged so as to show a lessened resistance they are readily seized upon by these organisms, which then may grow and produce their most deadly effect. No one knows just what heredity is, more than it seems to be a transmitted susceptibility to the development of disease; and bacteriology has positively shown that, even when an individual is born with a certain disease, it is only heredity in that the offspring is capable of supporting the parasite which is its real cause. It is hard to fix an accurate standard of normal resistance, but this does not prevent the recognition of a reduced resistance, and it is this reduced resistance which is heredity in many instances."

Kelly, while unwilling to deny that malignant tumors may be due to the pathogenic activities of lower forms of life, believes that the proposition has not yet been proved, and that there are many facts known that speak with our present methods of investigation. He quotes against the likelihood of its ever being proved, at least the opinion of Ziegler: "The formations that have been described as protozoa and blastomycetes are in reality degenerated nuclei, degenerated nucleolar figures, various products of the cell protoplasm, such as mucus, colloid, hyalin, keratohyalin, or cells, for instance cancer cells, that have included leukocytes or the products of their retrograde metamorphoses. . . . . The supporters of the parasitic theory of tumors are in reality decreasing in number, and this phenomenon is justified not only on account of the want of the demonstration of the occurrence of tumor parasites, but also because all the biologic characteristics of tumors speak against their parasitic nature."

There is no doubt that there is a normal resistance to the growth of cancer in healthy tissues, and on the other hand, there is no question of the inherited tendency of some individuals and families to become cancerous. Van Cott regards it as a very significant fact that primary cancer does not develop in places in which there is not contact with external air, and on the contrary, it is apt to originate at the various points in the body which are constantly coming in contact with various foreign subjects. It is well known that traumatism is often given as the exciting cause of cancer; this would explain the occurrence of the disease to the establishment of the point of lessened resistance, for the feeble vitality of scar tissue is well known. On the other hand, Dr. A. J. Smith has been attracted to the question of the protozoon parasites of cancer, and while he is unable to come to a definite conclusion, he has spoken encouragingly on the subject.

One of the strongest arguments for the parasitic origin of cancers is that the parasite coccidium oriforme of the rabbit produces in that animal a disease in which the liver is studded throughout with whitish nodules ranging in size from a pinhead to a split-pea—on section each nodule is seen to be a dilated portion of a bile duct; the walls are lined with epithelium in the interior of which are multitudes of oviod bodies, the coccidia. It is claimed by the adherents of this theory that this coccidosis of the rabbit is an infectious disease and non-inflammatory, and that the resemblance between it and cancer is greater than between other infectious diseases and cancer. The opponents of the theory reply that coccidosis in the rabbit is an inflammatory disease, and although it is at first only a parasitic disease in the epithelial cells, it grows later into a chronic inflammation of the mucous membrane with fibroid thickening and hypertrophy.

On the other hand, a number of pathologists have attacked this theory with much vigor. McFarland states that he has found the bodies in question in nearly every one of forty cancers which he studied. He described them as follows:

"The bodies called parasites I generally found in the epithelial cells, in one instance in the nucleus, but in all the others in the protoplasm. They are spherical or slightly oval in shape, smooth in outline, not infrequently seeming to be surrounded by a double capsule. Sometimes they are homogeneous, sometimes homogeneous containing a more or less distinct nucleus, sometimes are granular throughout. The size varies from an almost imperceptibly small sphere to one so large as to distend the cell and compromise the shape of the nucleus by the pressure exerted. The majority are very uniform, however, being about 2-2½ times the size of the nuclei of the epithelial cells. The separation between the inclosed body and the protoplasm is always sharp, and sometimes a space exists between the surface of the inclosure and the cavity in the protoplasm as if the body occupied a vacuole. When nuclei are present they are a trifle indistinct in outline, sometimes appearing simply as a collection of granules near the center of an otherwise homogeneous body."

Methods of staining upon which so much emphasis has been placed seem to be variable and unreliable in action. The best results were secured with hematoxylon, eosin, the granules and nuclei taking on a bluish tinge, while the homogeneous material tinges vary slightly with the eosin.

The opponents of the parasitic nature of these bodies say that no one has been able to grow them outside of this environment or of seeing their growth in that environment. When they are inoculated in animals they do not reproduce themselves or show any other manifestations which cannot be explained in other ways. If they are not parasites, the next question is, what are they?

McFarland believes that many of these so-called parasites are simply digested leucocytes, others he regards to be the result of globular hyaline degeneration, while others are simply vacuole.

Even if these animal parasites are really present in cancers the problem comes up, Do they really cause the cancer? In the first place the great mass of evidence at present is, that cancer cannot be transmitted from one person to another by inoculation. Again, cancer is a

non-inflammatory disease, while all the known infectious diseases except malaria are inflammatory in type. For example, in a tubercle the secondary formations are produced by the dissemination of the bacilli, but in cancers the secondary growth depends upon the transportation and multiplication of cancerous cells. The third objection to the fact that cancer is parasitic in its origin is that epithelium is naturally a varying tissue. We must not forget the peculiarities of the tissues from which cancers grow. Bowlby has found that in persons beyond middle life there is apt to be distinct changes in the form of proliferation of cells and alveoli. Councilman has demonstrated that in consequence of chronic inflammation granulation tissue is found beneath the epidermis and the epithelium grows down into the true skin, giving rise to a branching system of epithelium beneath the skin occupying the lymphatic vessels, presenting a close appearance to squamous epithelium, containing epithelial pearls and circumscribed in growth in the denser tissues underneath. It is the belief of McFarland that cancer is not due to any specific cause, but has its origin from numerous and often coöperative causes, of which much still remains to be learned, but which will show us that the principal factor in its introduction is an inherent proliferative tendency in the epithelium itself.

The later course of the theory of the infective nature of cancers is particularly supported by certain Italian pathologists, especially Sanfelice and Roncali. They deal exclusively with certain organisms which they classify with the blastomycetes of which the ordinary yeast plant is a good example. They consider the organisms which they have isolated in pure cultures from tumors in the human economy and to some extent successfully re-inoculated into animals as identical with the various bodies observed in malignant tumors. Roncali has stated that the presence of blastomycetes in malignant tumors may be regarded as certain and irrefutable; they are constantly present in degenerated and non-degenerated forms; they are to be found in the recent, peripheral parts of the tumors, but it may require hundreds of sections to demonstrate their presence; they are similar to the cancer parasite of coccidia of previous authors. On account of their tendency to swell up, coalesce, and then calcify with the formation of striae, one variety has been called by Sanfelice the saccharomyces lithogenes.

Sanfelice passed a blastomyces, isolated by him from cases of carcinoma in man, and which he calls the saccharomyces neoformans, through several dogs. By further inoculations he obtained two positive results. In one case a typical adenocarcinoma, with lymphatic metastasis, developed in the region of the hind nipples in a female dog; the development of the neoplastic process began a little more than a month after the inoculation, the animal dying from marked cachexia ten months later. In the second case an equally typical adenocarcinoma of the testicles, with numerous secondary masses in the vicinity, followed injection of saccharomyces neoformans into the testes; the tumor was first noticed about six weeks after the injection, resulting in death in about six months. In these new growths the parasites appeared in the tissues as numerous extracellular and intra-cellular fusion bodies. As yet, there have been no serious confirmations of these views of these Italian observers, although pathologists are at the moment hard at work upon them.

There is one division of pathology which may be able to furnish some day satisfactory theories in regard to human malformations. It is the subject of experimental teratology, the study of malformations in the fetus and the child. It is very clear that as yet an explanation of tumor-growths which can be applied to all tumors has not yet been made.

PRACTICAL EXPERIENCE IN THE TREATMENT OF NEURASTHENIA.

BY H. C. PATTERSON, M.D., PHILADELPHIA.

IT is now definitely known that there is certain changes which take place in nerve cells due to their activity. They are undoubtedly due to exhaustion and affect the entire contents of the cell. It has been demonstrated by C. F. Hodge that as a result of electrical stimulation the nuclei of nerve cells grow smaller, and their ages become irregular, and that the protoplasm changes in character. Hodge has also demonstrated that these nerve cells if permitted to rest for sufficient time regain their normal condition.

This is undoubtedly what takes place in the human economy when nervous exhaustion sets in. As pointed out by Dercum the backache and headache found in neurasthenia are peculiar in that they resemble the sensations produced by normal fatigue. "They seem to be grossly exaggerated fatigue sensations. Certainly the backache of neurasthenia differs from the backache of lumbago, or the backache due to actual disease of the spine or spinal contents. Certainly, too, the neurasthenic headache differs markedly from headaches due to other causes. Not only are symptoms present in the sensory and motor spheres which would suggest exhausting change in the nerve cells, but also, as is well known, in the vasomotor apparatus and in the behavior of the various glands and viscera. In the tendency to irregular flushing, in anomalies of sweating, in the anomalies of the secretion of urine, in the general atony of the digestive tract we have instances of this condition. Certainly our position relative to neurasthenia has materially improved by the researches of Hodge, inasmuch as they enable us to formulate a rational and conceivable pathology of this curious affection. It does not seem, however, that the researches of Hodge, even in their fullest application, yet enable us to explain all that is found. Certainly such curious symptoms as the tinnitus aurium, the persistent throbbing in the limbs, and the various chill-like creeping and other strange anomalies of sensation which we meet with still lack an explanation."

The principal indication, therefore, in the treatment of a case of neurasthenia is the use of rest on the part of the patient. This is particularly true in the pressure of work as it is seen among Americans to-day, and the use of the rest cure, partial or complete, will often effect astonishing improvements.

The details in the use of rest cure are important, for on them rest largely its success or failure. The diet, of course, is a matter of the greatest importance, and this is a difficult problem, for the neurasthenic patient is nearly always a sufferer from dyspepsia, especially of the form called nervous dyspepsia, and he has neither a desire to eat nor the ability to digest properly. Therefore, if a patient is placed upon milk, which is the sheet anchor in this form of treatment, he will object decidedly to taking it. It is well under these circumstances to modify the milk by the addition of some carbonated water or by giving it in the form of koumiss or peptonized milk.

The question of koumiss is an interesting one which admits of some study. Koumiss is a highly effervescent

slightly acidulated form of milk produced by a certain process of fermentation. It contains the casein, which is the most nutritious portion of the milk in the unfermented condition. The composition of koumiss is always changing, the process being as follows: The lactose being partially changed into lactic acid, carbonic acid and alcohol; the albumenoids are peptonized to a certain degree and the other constituents of the milk exists in such a finely divided state that the digestive fluid can act upon them easily. The first stage of koumiss it is found to be somewhat sweet and mildly effervescent, but in the course of a few days it becomes decidedly acid and highly effervescent.

Practitioners frequently make the mistake of administering the koumiss chilled. It should always be administered with the chill taken off, and it will then be found very digestible. In fact, as a working rule, it is well to remember that the nearer the temperature of the koumiss approaches that of the blood the quicker and easier it will be absorbed. Again, the quantity should never exceed what the patient can easily digest. There has been introduced the preparation koumisgen, which is highly recommended by some authorities. It is prepared from skim milk dried and powdered, and is alleged by its opponents to be deprived of its most important nutrient properties. Those who advocate its use, however, point to the practical result that it does good.

As is often the question in regard to taking certain medicines the patient may be able to take milk even when he thinks it does not agree with him, but it is well to begin with small amounts, excluding for the time being all other food. In this way in the course of a few days the patient will find the milk very acceptable. The physician should be careful not to allow the patient to eat enough to keep him from being somewhat hungry all the time for the first two weeks. Cautiously his diet should be increased by the addition of small slices of rather stale bread, adding later on a small chop or steak in the middle of the day and a nicely boiled egg for breakfast. From this his diet is built up until he eats three good-sized meals a day. According to the experience of Dercum he regards the following dietary as the best: a breakfast of fruit, cracked wheat, one or two soft-boiled eggs, or a good-sized steak or several chops, bread and butter and milk; a dinner of a good slice of roast beef with vegetables and boiled rice (in place of potatoes). The supper I prefer leaving as a light meal of bread, butter, fruits, light pudding, and milk. It will be noticed that in this dietary coffee, chocolate, tea, cocoa, are absolutely omitted. Further, that malt extract, cod-liver oil, and beef tea (all recommended by others) are not used. His own studies of these cases have convinced him that soups, beef-tea, and broths possess relatively little value, that they simply occupy space which can otherwise be given to milk, which certainly has a higher nutrient power. As the neurasthenic has generally exhausted the use of stimulants, coffee, tea and alcohol are objectionable. For the same reason wine, beer and milk punches are not indicated.

The use of drugs are not to be advised unless they are especially indicated. If the patient shows a coated tongue and reports constipation, it is well to administer him mild doses of calomel. If laxatives are required for some period there is nothing better than the fluid extract of cascara, given in small doses twice or three times a day. If he has a gastric catarrh which is stubborn in character appropriate remedies can be given. Again, headache, or profound insomnia, may demand special treatment. For the headache in these classes of cases phenacetine or phenalgin is usually happy in its results. Strychnine and arsenic should not be given as a routine plan, but only where the patient feels that some stimulant action is required.

One factor which the physician must insist on especially is the isolation of the patient. Mitchell, to whom the principal credit is given for popularizing this form of treatment, places great emphasis upon this feature. This is especially true among women, for two reasons, in the first place a neurasthenic woman is apt to be hysterical, and she should be removed from the influence of her relatives and friends. Again, it is generally not realized that the woman of family, unless she is imperatively isolated, cannot be protected from the many details of the household work. Nurses, cooks, and children will slip in and worry her unless absolutely and rigidly every one is excluded, and no exceptions should be made in favor of any one.

Not only should the physician pay attention to the diet, isolation and rest, but there should be introduced the feature of massage and electricity, as artificial means of exercise. All this should be done in a very judicious, cautious manner. The patient must be made accustomed to lying in bed, and she must become acquainted with her nurse. It is well for the nurse to give her patient a mild sponge bath on the first evening of her treatment, for it is apt to promote sleep and give the patient and nurse a chance to become acquainted. Massage should be begun very slowly and mildly, for if it is not, it may tire the patient instead of invigorating her and make her wakeful instead of inducing sleep. Therefore all that should be done at first is the gentle superficial stroking, and this should be increased cautiously until at the height of the treatment until the massage has been given for about an hour. It is better that the massage should be given by the attending nurse, even if she is not so scientific as a regular masseuse. The introduction of a third person in the bedroom often has a bad effect upon the patient.

In using electricity we must remember that the average neurasthenic patient is likely to be afraid of it, and much of the results may be obtained by the massage. If it is applied it should follow regular in the treatment and be given in a very cautious way. According to some authorities it should only be given to prepare the patient to get out of bed.

The real secret of success in the rest cure is its modification to suit each particular case; if a patient is forced, as it were, into a mould, it will do harm. In some cases rest for the mind is as important as for body; on the other hand, to provide against too great ennui, it may be necessary for the nurse to read to the patient, under definite instructions from the physician, if she is a good reader and does not irritate the patient by her method of pronunciation. Again, the patient may be sponged with hot water after breakfast, or with a solution of strong salt or sea brine, followed by the use of alcohol—or momentarily rubbing the skin with ice after a hot bath may be excellent. In giving these baths, the patient should be stripped and lie between blankets so as to avoid exposure and cold as much as possible.

The following time table for food is used by some authorities, changing it as needed from time to time:

8 A. M. Rolls or toast, cocoa, beefsteak, tenderloin or mutton chop.

9 A. M. Bathing.

11 A. M. Oatmeal porridge with milk or a pint of koumiss.

12 M. Massage.

2 P. M. Dinner: bouillon with or without egg; beef-

steak, rice, roast white potatoes, dessert of bread pudding, blanc mange or similar farinaceous food.

4 P. M. Electricity.

5 P. M. Milk toast.

9 P. M. Half a pint of skimmed milk or koumiss.

The electricity should be given in this way: The faradic current should be employed: first to the individual muscles, next to the whole body. The slowly interrupted current is generally to be preferred, but it can be varied from time to time. The rule to remember is to select that current which produces the most muscular contraction with the least discomfort. The operator should begin with the hand or foot and systematically faradize each muscle. This process, if complete, should take about forty minutes. Then replacing the electrodes with large sponges dampened in salt water, one should be placed at the nape of the neck, the other against the soles of the feet and a current as strong as the patient can bear nicely should be given for twenty minutes.

The standard for the success of our treatment is the question whether the color of our patient is improving and later whether the flesh is becoming firmer and the weight increasing. Patients have been known to gain as much as forty pounds in twelve weeks' time, and Mitchell regards it as the most valuable index of a successive treatment. He considers it of more value than the persistence of backache, headache or other general nervous feeling. These symptoms in the majority of cases grow fainter and fainter until they disappear. Where these symptoms appear to be permanent it is undoubtedly true that actual changes have taken place in the nerve cells.

The next point of consideration, which is one of considerable perplexity to the physician, is the time for the continuance of the rest cure. Some authorities believe that even in extreme cases the patient should be allowed to sit up at the end of six or at the most eight weeks, and that in the majority of cases three weeks is all that is absolutely essential for isolation. Other authorities regard the best guide is the study of the body weight; for example, if a decided increase has taken place and then ceases, it is probable that the maximum increase has been reached. Should the patient at the same time show improvement in her symptoms it is undoubtedly time to get the patient out of bed. It is well to remember, however, the mild cases of neurasthenia, that they will keep on increasing in weight until they have become needlessly fat. In such cases we should take the normal weight of such a patient as the guide. We must not forget that our patient is weak although well-nourished and she must be allowed to sit up only for five to ten minutes a day at first. Coupled with this it is well to make passive movements of the legs and arms. Gradually this time should be increased until about ten days the patient should sit up for about six hours a day. She should be also made to walk a little around the room, and finally she should take a short walk out or try a carriage ride. As soon as she is able she should be sent to some quiet resort, preferably to the seashore for a few weeks, gradually increasing her amount of exercise.

When she returns home we must remember that she may again be exposed to those influences which brought on her original attack and we must take measures to prevent it. She should spend at least ten hours in bed, where she should also take her breakfast, and she should keep on with her milk until little by little she gets back to her ordinary life. It is well to remember that a rest cure lasting from ten to twelve weeks is far less likely to be followed by a relapse than those of a shorter period.

Men do not take as kindly to the rest cure as women, but if they are sufferers from pronounced neurasthenia the plan for them must be as rigid. As a rule, however, a modified form of rest cure is all that is sufficient in their cases.

A CASE OF PAPULÆ MADIDANTES; RECTAL STRICTURE; COLOSTOMY, ETC.

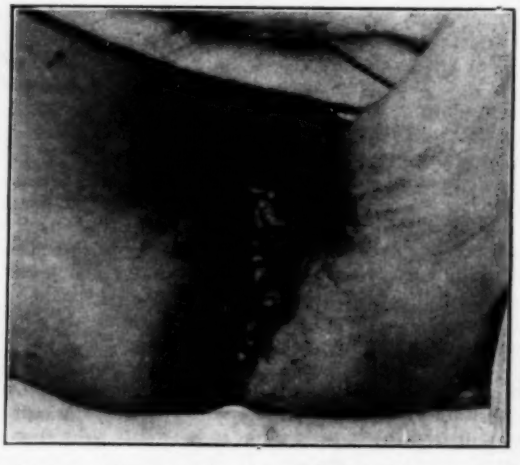
BY OTTO SOMMER, M.D., WASHINGTON, D. C.

THE following case came under my notice in the Metropolitan Hospital, New York, through the courtesy of Drs. Marter and Stewart, service of Dr. Arthur Hills, and while of hardly "practical" interest deserves being recorded among the curios of venereal experience.

Patient was aged forty-eight, German, female (widow), domestic. Obtainable venereal history: "Twelve years ago had chancre of some part of mucous membrane of genitalia, which was completely healed under treatment.

"Five years later had an inguinal abscess of left side, treated by lancing, etc., at *a* hospital.

"Three years ago patient first noticed a pendulous body from external genitals which was removed at Fl——h Hospital, and was six inches? [mine?] long."



Status.—Severe pains in vagina and in rectum, the latter agonizing on defecation.

Objective: We have externally the condition shown by the cut with considerable similar involvement of the vagina. The rectum was so much in a state of inflammatory ulceration and stenosis that the tip of the little finger could not be more than barely introduced. It

must be observed that the condition of the anus is not one of hemorrhoids alone, but also of papulæ madidantes. In fact, though Lesser would like to discard the term condylomata lata for papulæ madidantes, which I have adopted as a general heading for my article, I believe Ziegler's "condylomata acuminata," modified by the additional term "pendula," together with numerous typical condylomata lata, the latter especially to the (patient's) right of the anus were present. My photograph, taken under difficulties, I regret to say compares but poorly with Lesser's beautiful photogravure, although I believe a fair idea is given of the extreme vaginal occlusion and rectal involvement. Says Ziegler: "*'Condylomata acuminata,'* or inflammatory papillomata, develop most frequently at the external genitalia and the vicinity of the anus, and develop here in consequence of chronic irritative conditions, which are caused by gonorrheal inflammation of the urethra or chancrous ulcers," etc., etc. He further says they can attain cauliflower appearance, becoming white and firm and even as large as an apple. To my case there is nothing of interest further than that a good artificial anus was applied inguinally (Stewart), which, by diverting defecative irritation from the diseased parts for some time greatly facilitated local treatment, mechanical and chemico-medical (calomel, etc.). the patient being able to go home for a period and later having an anastomosis made (Fralick). A complete cure had not yet been effected during my observation of the case. I have seen cases of condylomata lata, both in the Salpêtière de Paris and some with Krulle in Lesser's wards in the Berlin Charité (both venereal curiosity shops), and yet, owing to the extreme intra-vaginal involvement, reckon this among "good cases."

A CASE OF PERITONITIS FOLLOWING PLEURISY SIMULATING APPENDICITIS.

BY WM. FRANCIS HONAN, M.D.,

Surgeon to Hahnemann and Metropolitan Hospitals, New York.

THE sudden onset of abdominal pain with perhaps nausea and vomiting followed by rigidity of the right abdominal wall, tenderness over McBurney's point, elevation of pulse and temperature, meteorismus, etc., in a person previously in fair condition of health is strong presumptive evidence of the existence of an acute appendicitis. It is assumed, however, that diseases of the liver and gall-bladder, enteritis, acute or typhoidal, and in the female ovarian and tubal difficulties have been excluded. Inflammatory conditions of the peritoneum are now held to be due to some form of microbic infection, the microbe finding its way into the peritoneal cavity usually by some accidental opening in a viscus, probably the result of suppuration, thus giving rise to a mixed infection and producing a suppurative peritonitis, or from some other poison which produces a diffuse septic infection. Senn calls attention to the fact that while these processes are etiologically identical, clinically they are widely different. Tubercular peritonitis is not considered a metastasis but an extension from the intestine or in the female from the tubes or ovaries as primary foci. The metastasis of the bacilli of influenza has been denied by many observers, but the reports of the German collective investigation of the influenza epidemic in the German Empire, according to Frederick, shows peritonitis present in from two to three per cent. of the cases. Finkler reports four cases in which peritonitis occurred in the course of influenza; all were fatal, and in none could a primary focus of infection be determined. In one case, his own patient, he believed death occurred as a result of a metastatic inflammation without previous involvement of the intestines. Lichtenstern admits a grave form of "grippal enteritis" with fibrinous, more rarely purulent, exudations, and cites two cases. It cannot be said absolutely that there was not a primary focus in these cases or in the one about to be reported, but the observers failed to locate it.

Miss G.—, aet. 26, nullipara, single, previous history good, except that she had suffered with dysmenorrhea until about two years ago. Some weeks previous to this attack had grippe followed by pleurisy. She was apparently convalescing when she was seized suddenly with sharp pain in the abdomen, followed by fever, nausea and vomiting. Her attending physician diagnosed an acute appendicitis, and suggested operative interference. She declined operation and under expectant treatment apparently improved. In a few days the same symptoms returned except with greater severity. She was then removed to the hospital and was referred to my care. Examination showed a distended and exquisitely tender abdomen with decided rigidity of the right side, she complained bitterly of the pain which was constant in the region of the umbilicus and in the region corresponding to the anterior wall of the stomach somewhat towards the cardiac end. Pain, though constant, was subject to frequent spasmodic exacerbations, and though the patient was of a decidedly emotional type she undoubtedly suffered very much. The temperature was higher in the morning of each alternate day, resembling somewhat the periodicity of a malarial intermittent. Vaginal and pelvic examination negative. Operation was decided upon, and with the patient under ether careful bi-manual examination threw no additional light on the diagnosis. The usual appendicitis incision was made and through this opening the coils of intestines showed a dark red color and covered with a fibrinous deposit which made delicate and easily broken adhesions. The appendix was intact, and except as partaking of the general peritoneal involvement was apparently normal. The opening was somewhat enlarged and the tubes, ovaries and gall bladder palpated but no evidence of disease found. The entire abdominal cavity was thoroughly irrigated with a solution of diluted peroxide of hydrogen followed by flushing with normal salt solution, as much of the deposit on the intestines removed as was possible with gentle wiping with sterile gauze. The wound was approximated with the usual catgut tier sutures and skin with silkwormgut, leaving an interval at the lower angle for a gauze train covered with rubber tissue. As usual, the drain was not a success. Drainage of the abdominal cavity is more or less of a myth. Adhesions form about the drain and after twenty-four hours the opening merely amounts to a narrow blind sinus.

The temperature and pain did not improve after the operation, but both continued and fluctuated about as before. The exhibition of antiperiodics failed to materially lower the temperature, at least the effect was only temporary. Dr. J. E. McWetmore was visiting the hospital at the time and his counsel requested in the case. After examination of the patient and learning the history, he offered a diagnosis of plastic peritonitis following a grippe pleurisy, and while there were undoubted indications for operation he doubted its efficacy in this case. He suggested expectant treatment, sustaining food, etc., and gave a favorable prognosis. After about six weeks the patient became gradually better, was able to leave the hospital. Convalescence became

established in three or four months afterwards. She was in better health than for some years. These cases are not infrequently met with, and while, as we will show from evidences of other observers, are dangerous cases in themselves, it is almost impossible to differentiate from acute appendicitis. Janeway (*Medical Record*, May 26, 1900), mentioning some conditions simulating appendicitis, relates a case in which the pains and aches of a follicular tonsillitis which were referred mostly to the right iliac region, led to the removal of a healthy appendix. As an offset to this he further mentions two cases in which he had been called to see a peritonitis from perforated appendix, the disease in both cases had been ushered in by a follicular tonsillitis. Caasart is quoted by Herman Mynter (*Appendicitis and Its Surgical Treatment*) as calling attention to the pneumococcus, which occasionally produces a very dangerous form of peritonitis which resembles appendicitis. The pneumococcus enters through the skin or intestine after traumatism or is conveyed by the blood or lymphatics and produces an effusion into the peritoneum with a tendency to circumscribed purulent collections. The mortality of these conditions is stated to be 75 per cent. unless laparatomy with thorough irrigation of the abdominal cavity be performed, which brings the mortality down to 20 per cent.

BULLET WOUND OF THE HAND.*

BY EWING MARSHALL, M.D., LOUISVILLE, KY.

LAST Thursday a boy was playing with a 22-caliber pistol, and just as he thought he had finished cleaning it, not supposing it was loaded, the pistol went off and the bullet struck him in the fleshy portion of the palmar aspect of the left hand. When I saw him I thought I could make out a little roughness about the bone. There was some swelling and I was not sure just where the bullet was, or whether the bone had been injured. I did not feel that it was the proper thing to cut down upon the bullet just then and decided to wait awhile.

I saw the patient this afternoon (five days after the accident) and could see a blue appearance which seemed to be the bullet, and thought if I cut down upon it I would find it just under the skin; but I must have missed it, although I cut over what I felt to be the bullet. After considerable exploration the bullet was found lying against the bone. I exhibit the bullet which was removed, and you will see that it is somewhat disfigured; it must have kept to the fleshy portion of the hand outside of the bone; it did not shatter the bone in the least. I hesitated at first, not being sure whether the bone was injured, and if the bone was injured I preferred to wait and allow the wound to heal rather than make a counter-opening. It is for this reason that I report the case, to ask whether it would be better to allow the wound of entrance to heal before making an opening to endeavor to extract the missile.

Dr. J. R. Wathen: I am interested in this case, because at a recent meeting of the Louisville Society of Medicine I reported a similar injury from a 22-caliber bullet. The chief cook at one of the large hotels in the city was shot in the hand while cooking dinner in the middle of the day; instead of going immediately for medical attention, he proceeded with the dinner and four or five hours later came to my office. I examined his hand carefully and satisfied myself that the bullet had entered and was still there. He said he thought it was immediately under the skin. I could not discover the location of the missile, however. He evidently had some sensation in his hand which imparted more than my examination could.

It was a question in my mind whether I ought to close this wound with an aseptic dressing and allow the bullet to remain, or to cut down at once and remove it. I believe to-day in the United States Army they prefer to seal such wounds with an aseptic dressing and let the bullets remain. In this case the patient insisted that the foreign body be at once removed, and asked me to go ahead with the operation, that he would take all the responsibility whether I found the bullet or not.

I made an incision over one-quarter of an inch in depth, but found no bullet. By blunt dissection I went almost through the hand and found the bullet wedged in between the bones in the lower part of the hand. It was easily removed.

When I reported the case before the Louisville Society of Medicine, I remember there was quite a lengthy discussion whether I was justified in removing this bullet or not; some of the members said it was entirely wrong; others stated that my treatment was right. In looking up the literature of the subject since, especially reports from army surgeons of the Boer war, they bring up a discussion similar to this, especially in regard to bullet wounds of the hands and feet.

Dr. H. N. Leavell: The question of removal of the bullet in situations of this kind would be more pertinent than it would be in more fleshy portions of the body. Where there is a bullet in the hand which would interfere with the activity of the tendons, etc., I think we would be justified in removing it, which would not be true in parts that perform only slight functional activity.

Dr. Geo. W. Griffiths: This matter could be discussed the entire night and then not be finally settled. I suppose every member of this society has seen a Nelaton probe, a very useful instrument in exploring bullet wounds. I would not hesitate to cut down upon every case where there is a prominence I believed to be the bullet. It has been my misfortune to have had quite a number of cases die of lockjaw; my experience is that three out of five patients die of lockjaw where the bullet enters at the base of the fingers on the palmar aspect of the hand. The moral effect of removing a bullet is wonderful upon the patient. The first question asked by the laity is: "Did you find the bullet?" It is a difficult matter to locate a bullet in the hand, and in nine cases out of ten you are apt to be deceived. You can get every symptom of the presence of the bullet, but it is like a phantom tumor when you get to it, it is not there. I have carried a Nelaton probe in my operating case for years, and its use has been very satisfactory. It has a porcelain ball at the end, with which the bullet is scraped or scratched, leaving the lead mark and you can then be certain that you have located it accurately.

I know of nothing in accident surgery of which I have more dread than wounds of the palmar surface of the hand. Three out of five cases die of lockjaw, especially where the injury has been inflicted with toy pistols. When there is a bullet in sight I am going to take it out. In bullet wounds about the hands and feet, the missile can be located with a Nelaton probe, and then I would cut down and remove it; I would not go in the original site unless I thought the ball was near the surface. After locating the bullet with the Nelaton probe, I have never been disappointed in at-

*Reported to the Louisville Clinical Society.

tempting its removal, and I have operated upon a great many such cases.

Dr. Florence Brandeis: I have had no experience with bullet wounds of the hand, but had under observation about Christmas time an accident somewhat unique in my experience. A young man had been shooting what he called a horse pistol all day, and said that it required considerable effort on his part to make it go off. Once it went off without his intention and kicked, injuring him in the palmar aspect of the hand between the thumb and first finger. He came to see me, he said, because he was sure his thumb was dislocated.

I examined him as well as I could, his hand being greatly swollen, and told him the thumb was not dislocated, that it was merely an injury to the soft parts. There was a slight break in the skin, and I applied an aseptic dressing and told him to see me the following day. He said he could not come back the next day, as he was going out hunting. He did not come back until the second day after Christmas, and said he had been too sick to go on the hunting trip and too sick to come to my office. He had a rise of temperature, great pain in the hand, fluctuation and local heat. I took the patient to Dr. Vance, who confirmed my diagnosis, that it was an injury to the soft parts. We dilated the opening and packed the wound lightly with gauze. We kept that man under observation for the greater part of three weeks. After a short time the swelling extended over the back of the hand, then through all the cellular tissue half way up to the elbow. On the sixth day it began discharging pus freely, and he had a most violent cellulitis. At the end of three weeks he was able to go back to work, and told me the other day that he had only a little numbness in the morning, which disappeared after a little exercise of the hand.

I have never seen such an intense cellulitis from a similar injury, and for that reason the case is reported.

RETAINED PLACENTÆ IN PRIMIPARÆ.*

BY THOMAS S. BULLOCK, M.D., LOUISVILLE, KY.

IN the last few months I have had rather a large experience with retained placentæ in primiparæ. I have reported two such cases already, one particularly in which I induced labor on account of almost complete laceration of the perineum, inflammation of the right labia, and there was a double uterus. The circumstances under which labor was induced gave me a perfect right to expect that there might be some sepsis, the right labium being in a suppurative condition, and the manipulation necessary to remove the placenta led me to be fearful lest I might carry some infection within the uterine cavity, but there was no trouble whatever. This woman was not a primipara.

Last Monday I delivered a primipara of a large female child, one of the largest girl babies I have ever delivered; it weighed, naked, ten pounds. I was fortunate in not rupturing the perineum, which is rather unusual in a delivery with forceps in a case of this kind, but I had an expert to administer chloroform. I think it is important under these circumstances to take plenty of time and allow the soft parts a long time in which to dilate. I waited the customary half an hour, informing myself occasionally by means of the hand of the condition of the uterus. It was pretty well contracted. There was a little oozing. At the end of a half hour, when I made a little pressure over the uterus in order to excite contraction, and, if possible, cause the placenta to be spontaneously delivered, the only reward was a sharp hemorrhage. I then waited another half hour; there was still no uterine action, and my attempts to express the placenta were futile, and only made the patient lose a considerable amount of blood. After waiting a little longer, I disinfected my hand and arm and removed the placenta by introducing my hand into the uterus. Under these circumstances I think it is better to run the risk of leaving a few tufts than to introduce a curette or make long-continued efforts to curette the placenta away with the fingers, because the uterus at this time is quite soft, and more damage than good might be done.

The patient has done very well since, except that after the placenta was removed her pulse was rapid (120), which has continued, and a little fetor of the lochia has developed, but, of course, this might be expected. She has had a little rise of temperature, but I do not apprehend any untoward effects. I gave her an intrauterine douche, washing away a few shreds of placental tissue. I am confident that no large amount of the afterbirth was left, but only little particles which it is impossible to thoroughly remove under such circumstances. Her temperature has not been above 100½° to 101° F., and under vaginal asepsis and antisepsis she is doing well.

In the first case where I anticipated sepsis, the course has been absolutely afebrile. This patient, however, is in the infirmary, while the second case is in a private residence.

DISCUSSION.

Dr. Wm. Bailey: I am sure the criticism I am about to make upon the remarks of Dr. Bullock will not hold good when he expresses himself perhaps a little more clearly in his closing discussion. I understood him to say that his manipulation of the uterus produced the hemorrhage. This is not what he means, I know. Under these circumstances I take it that contraction of the uterus will not produce hemorrhage, but it will produce a flow of blood when hemorrhage has already taken place, due to the want of contraction, of course. Under these circumstances, I believe it is better not to wait, but to empty the uterus promptly with the view of getting that final contraction which shall prevent any further hemorrhage. When hemorrhage occurs from the uterus after manipulation to induce contraction, it seems to me that the blood has simply accumulated in the uterus during the period of rest, and has been expelled by the contraction incident to the manipulation. Hemorrhage under such circumstances should induce us to continue the manipulations in order to bring about final contraction and thus prevent any further hemorrhage, or to proceed at once to remove the placenta by other means.

Dr. T. S. Bullock: I appreciate the criticism made by Dr. Bailey. Of course the blood which escaped had been retained in the uterus and the slight contraction induced by my manipulations simply caused it to be expelled. There seemed to be little or no effort on the part of the uterus toward expulsion of the placenta, hence it became necessary to remove it. It was one of those cases where fatty degeneration or whatever it is that causes the placenta to separate itself from the uterus did not occur, and it was impossible to express the placenta by Crede's method. I did not introduce my hand into the uterus until I had exhausted other methods.

* An Abstract.

THE CLINIQUE.

Examining the Shoulder for Injuries.—In injuries of this region the following method of procedure is an excellent one to follow. Stand behind the patient and examine the two shoulders consecutively, one with each hand. Starting at the inter-clavicular notch, pass the fingers out along the clavicle to the acromial process, and then draw the hands backward along the spine of the scapula. Now have the patient put his hands high against his back, and follow down the inner edge of the scapula and around its angle, which will be prominent. Next grasp the shoulder, placing the thumb on the acromial process and the finger on the coracoid. The head of the humerus should be between them. Place the fingers in the axilla with the thumb on the acromion and have the arm moved in different directions.

The Use of Anesthetics During Labor.—There has been a great discussion in the medical profession as to the expediency of using anesthetics in parturition ever since Prof. Simpson of Edinburgh suggested it. On the one hand, the opposition has been widespread and decided, not only from the actual dangers of the anesthetic, but also because it was thought that their administration would interfere with the natural progress of obstetric procedures. But now in the condition of so-called obstetric anesthesia which might be called partial anesthesia, demi-anesthesia or analgesia the pain is largely annulled, but consciousness is not lost and voluntary effort is still possible. Although the patient is a little drowsy she is able to answer questions and the uterine action be continued. If carefully used this state can be kept up for hours, although if the anesthetic is pushed the patient goes to sleep as in a surgical case for anesthesia.

A recent observer has lauded extensively the use of chloroform during labor, and he claims that death during obstetric anesthesia is exceedingly rare and that alarming symptoms seldom appear. He claims that the dangers from chloroform only begin when used to a surgical degree. If chloroform is administered to the surgical degree it directly diminishes and may suspend uterine activity during its exhibition. It is well to remember the principle that uterine activity is progressively resumed as the patient awakes. The same effect is observed on the abdominal muscles, the bearing down efforts are resumed as the patient awakes.

Lee reports that the action of chloroform in these two ways makes it a valuable aid in difficult intra-uterine maneuvers. The third stage of labor is little influenced. The uterus contracts and retracts promptly when emptied, which is not surprising, for it will contract after the heart has ceased beating. Post-partum hemorrhage is rare, but on theoretical grounds care is advised, it being claimed that the drug decreases the clotting power of the blood. It can thus be seen that surgical anesthesia may interrupt labor temporarily, until the anaesthetic effects pass off. In some cases the pains continue and labor terminates in narcosis, as observed in eclampsia. By suspending the pains for an interval the patient and uterus may acquire much-needed rest, and on awakening labor is quickly terminated; thus anesthesia may shorten the time of labor. On the child, short deep anesthesia has no bad effect; longer narcosis certainly has some influence.

When chloroform is administered to the obstetrical degree its effects are different. Uterine contractions are at first weakened and the intervals lengthened; soon the original force and frequency are acquired. This is true only when the anesthetic is started near the end of labor. When the pains are irregular, jerky, painful, or tempestuous, chloroform regulates them, and labor proceeds more smoothly and evenly. A similar effect is observed in the abdominal muscles, but soon the woman appreciates removal of the pain element and bears down more readily. Toward the end of the expulsive stage it is often necessary to crowd the drug to prevent too powerful pressing efforts. It is hard to prove the statement that forceps operations are more frequent under moderate use of anesthetics.

On the third stage of labor no evil effect has been demonstrated. One should be more careful in this stage to guard against hemorrhage, as a prolonged mild anesthesia is more to be feared than when short and complete. Ahlfeld asserts that the loss of blood is greater in the third stage when chloroform has been used.

On duration of labor chloroform has slight influence. In a large number of cases it perhaps lengthens labor, but in many cases of rigid painful cervix and perineum, dilatation is distinctly favored, and in nervous primiparæ, who will not bear down when the pain is removed, the abdominal muscles will be brought into action, and in this way hasten delivery.

Of course, surgical operations in obstetrics require surgical anesthesia, such generally the use of forceps, craniotomy, and allied operations, while version and reposition of various members of the fetus are also facilitated by anesthesia. It should be an invariable rule that another physician should administer the anesthetic in all surgical operations. In this way the operator can give better attention to his work. If chloroform is used the inhaler should allow very free admixture with air, and only from eight to fifteen drops should be put on at one time.

Ether is used by many obstetricians and analgesia with it can be as readily performed as with chloroform. In the hands of most American physicians ether is regarded as safer than chloroform, and there is also a somewhat general distrust of chloroform among the public, but there are certain conditions, such as eclampsia, in which ether increases the cerebral congestion; also in renal disease ether is probably not as safe as chloroform; craniotomy, and allied operations, while version reposi- but fortunately in obstetrics this condition is rarely met with. It has been a rule with many obstetricians to use chloroform for superficial anesthesia and ether for operating in complete anesthesia.

True Pneumonia in Typhoid Fever.—The case which I now present for your consideration is that of a serious complication occasionally met with in typhoid fever patients. This man when admitted was suffering from typhoid fever, but he was delirious and exhibited signs of double pneumonia. It seemed for some time that his recovery would be impossible, but under the use of oxygen inhalations and stimulants given persistently he gradually improved until at the present moment he is out of danger. Strychnine in the form of one-fortieth of a grain was given every fourth hour; alcoholic stimulants were pushed so that he was given seven drachms every second hour, and occasionally a good sized dose of atropine was given. The history of this case is an excellent illustration of the extreme uncertainty of the prognosis of typhoid fever, for, according to the severity of his symptoms, this man should have died.

It is not uncommon to find congestion of the lungs in typhoid fever and it is frequently called pneumonia, but true pneumonia as we undoubtedly had in this case as shown by the physical signs and the subcrepitant râles heard now is rare. We may say, therefore, that marked congestion is common, but actual consolidation is uncommon. On the other hand, bronchial catarrh occurred

so frequently in typhoid fever that it can scarcely be called a complication, but must be regarded rather as one of the symptoms of the disease. Bronchial catarrh does not add to the gravity of the disease; congestion adds considerable, while in genuine consolidation is very apt to bring about a fatal result.

In the treatment of this case strychnine was used both as a respiratory and circulatory stimulant. The use of the oxygen inhalations was of the greatest value, while stimulants were administered as freely as the condition of the patient would allow. The patient was in such a weak condition that cold baths were not attempted, but instead he was sponged with hot alcohol, which is an excellent substitute for the bath in these cases which exhibit marked weakness. This procedure reduces the temperature while it also has a stimulant action.

The Crisis in Pneumonia.—The next case presents a picture of true pneumonia in which the temperature chart showed a typical termination of the disease by crisis. When the patient was admitted to the hospital a systolic murmur was heard on physical examination; this murmur still persists. What does a murmur of the heart mean in pneumonia? In a great number of cases a cardiac murmur is heard when the disease is developing, but it is of no significance and disappears on recovery from the pneumonia. Here, this is not the true explanation, as there was a somewhat vague history of heart trouble when the patient was admitted. As a rule, when the patient has heart disease pneumonia is a grave condition, but fortunately here the patient seems to be doing well. Because of its previous good effect in cases where the pulse was very strong the tincture of veratrum viride in five-minim doses was given every fourth hour, in this instance with good results. I am very partial to its use in such cases and I find it very helpful. In addition he was given carbonate of ammonium, stupes were applied, and he was dry cupped.

As to the crisis in pneumonia, when it is as marked as in this case, one should be on the alert. This is a time when there is a marked change in the whole system, and faintness and exhaustion are apt to be very great. The patient should be kept warm by hot cloths or hot water bags. Give stimulants if they have not been used before, or if they have, increase the amount. I am very apt also to give quinine at these times, and strychnine sometimes does admirably.

The Treatment of Cardiac Asthma.—The next case is that of a mechanic fifty-five years of age, who comes to us with the history that he has no pain in his chest, but that he has had attacks of shortness of breath for a period of several months. His urine contains a few casts, and examination of his heart shows that he has a feeble first sound and commencing arcus senilus. He has also atheromatous arteries. We have placed the man upon belladonna, giving him three drops in a drachm of the syrup of wild cherry, and also one drop of a one per cent. solution of nitro-glycerine three times a day. Under this treatment the man is doing fairly well.

Pruritus Due to Bathing.—Now and then, a practitioner runs across a curious case in his practice. One of these is the itching or burning that some people experience after bathing. This feeling varies greatly in different patients and different times in the same patient. It may extend from a sensation of mild burning up to an intolerable itch, which is made worse if the patient gives way to this feeling and rubs it. It may extend over his whole body or be found only on his lower limbs. The season of the year seems to have very little influence on it, and it may be just as common after fresh-water bathing as after salt water, and it has been known to follow in some cases even sponge baths.

It has been taught by some dermatologists that this condition has been produced by the use of strong or impure soap, or from the free rubbing in of mild soap, which has not been thoroughly rubbed off. Again, the use of very hot or very cold water, or the remaining in the water for a long period, has been ascribed as a cause. Again, the attacks of digestic disturbance have been given as the reason for this pruritus. But undoubtedly, although all these things will aggravate the case, they are not the primary cause. These attacks are more apt to occur in patients who have irritable dry skins, the rubbing or scratching of which irritates them quickly. When it comes to the question of treatment the indication is to remove as far as possible the source of the irritation. The patient should bathe for a short period in water which is about tepid; all soap that is used should be of the mildest character and used sparingly and thoroughly cleaned off afterwards. The flesh should be kept gently dry with a soft towel, for if the skin is allowed to dry itself the itching is generally aggravated. After the bath a glycerine lotion or an ointment of cold cream and lanoline with or without a very small amount of carbolic acid will generally lessen the severity or even prevent the attack. On the other hand, a dusting powder may be the most efficient remedy. The patient should do after the bath such things as his experience teaches him are of benefit; for example, some patients find that if they dress and move about actively the attack is less severe. The general condition of the patient should be inquired into, and his physical condition should be brought up to par, and especially if a gouty diathesis is suspected moderate doses of salicylate of sodium may do good.

A Case of Subacute Rheumatism.—The next patient is that of a woman twenty-five years of age, who comes to us with an aggravated family and personal history. She tells us that about a week before coming to the hospital she noticed that whenever she moved her right wrist she experienced pain, gradually this pain spread down the right side into the right leg. After this she had a number of attacks of chills and vomiting. On admission to the hospital it was found that her pain was confined largely to the right leg, and she has a slight fever, her temperature running up to 100 degrees. On examination we found that the skin over the right knee is glazed in character and reddish in hue. This joint is swollen and slightly bent upon itself, while the local temperature of this part is elevated. Her heart is normal in condition. This case can be regarded as one of those attacks of articular rheumatism in which the symptoms are milder than in the more acute type of the disease. and the onset suggests a chronic condition more than it does an acute one. I consider this point of great importance in these cases when it comes to the question of treatment, for the use of salicylic acid in these subacute cases rarely avails anything. If the drug does good it will commence to show its effects very quickly. I will place her upon this drug, but if she does not progress well I will stop it and go back to that old-time favorite, the iodide of potassium.

A Simple Treatment of Ulcers of the Leg.—All dispensary physicians know what a large percentage of their cases fall under this heading. It seems almost as if this was a condition which was confined to the dispensaries, for it occurs as a rule in a class of patients who cannot afford to consult a physician in his waiting-room. There are many plans of treatment proposed by surgeons for this condition; the following one has been

used for a number of years by dispensaries where from ten to twenty-five cases of this sort are treated weekly, and has been so successful that it has brought many patients from a distance who have heard of its efficacy. The leg and ulcer is cleansed at once with a bichloride solution of the strength of one to a thousand, and then the ulcer is douched with a spray of peroxide of hydrogen. The sore is then covered with strips of Lister's green protective in the following manner: Beginning at the bottom of the ulcer the first strip is placed on, being about a half inch wide and long enough to cover the ulcer horizontally. The succeeding strips are placed one above the other, overlapping each other; this arrangement of the strips is important, for in this way all irritating discharges are carried out on the protective and drained away. If the strips begin at the top the secretion will be drained back on the surface of the sore. Over this dressing—which should not be made of the cheaper thick protective, which is worse than useless—is placed an antiseptic dressing, or the so-called "antiseptic poultice," which is simply a thick layer of antiseptic gauze, which is wet with a solution of bichloride. No oiled muslin or silk should be put over this, for this practically converts the dressing into a hot poultice. But the most important part of the treatment is the application of a tightly-fitting figure of eight bandage to the leg and foot. This bandage acts much better than any other, for it gives a firm, even pressure and stays on the leg much better than anything else. It causes the patient no annoyance, and allows him or her to attend to their regular duties. This dressing should be renewed every other day until the ulcer disappears, which generally takes place in from four to six weeks. This plan of treatment meets all the indications of the case, for the ulcer is protected against its own irritating discharges, the wall of congestion and inflammation is broken down, the venous circulation is supported, and the flow of fresh nourishing blood to the part is constantly maintained. Treatment should not stop here, however, for if the leg is left unprotected, the ulcer will speedily return. In the text books the use of India rubber stocking is recommended, but they have many disadvantages; they are expensive, heating, and lose their elasticity in spots. There has been recently devised a rubber bandage which is cheap, durable, and easily applied by either physician or patient. It is known to the drug trade as the Randolph bandage, and is undoubtedly the most satisfactory bandage for this condition yet devised.

Disinfection of the Skin.—It has been proved without a doubt that absolute alcohol has no germicidal power, but on the other hand, dilute alcohol has some degree of germicidal action. This power increases with the dilution up to about 50 per cent. and then diminishes; therefore, if alcohol is used for the purpose of cleansing the skin, 50 per cent. alcohol is the best for that purpose. Alcohol and carbolic acid when used in combination form an inert chemical combination, while it has been found by experiment that a 5 per cent. solution of carbolic acid and absolute alcohol has no power at all to kill germs, but if 50 per cent. solution of alcohol is used with the solution of carbolic acid, a combination of moderate germicidal power is produced. It is believed by some that for disinfection of the skin the combination of two or more chemicals should be used which have increased germicidal power in their nascent state. Undoubtedly if we use two or more chemicals as disinfectants we must know that the combination has antiseptic power.

The following method was devised by Senger, who bases it not only upon the chemical combination, but has confirmed it by bacteriological experiment. He first advises the use of a 2 to 5 per cent. solution of hydrochloric acid, which he applies to the skin for a few minutes. He follows this by the application of a five-tenths to two per cent. solution of permanganate of potassium to the skin for one minute. He then uses a solution of sulphurous acid to remove the discoloration. Water at the ordinary temperature absorbs forty times its volume of sulphurous anhydride and forms a solution of sulphurous acid. These combinations form nascent chlorine, oxygen and sulphuric acid, and the germicidal power is very efficient and the results in practice are found to be very excellent. Another combination is that of the use of the permanganate of potassium and oxalic acid. It frequently happens that the surgeon's hand contains virulent bacteria and their spores, which are not killed by the ordinary method of disinfecting, and occasionally the patient's skin is found in the same condition. There is a need for some absolutely certain method of cleansing the hand and the skin, which will be done whether gloves are worn by the operator or not, for the knife or needle may cut the glove or they may tear.

The Gibney Bandage in Sprains of the Ankle.—The use of the Gibney bandage, so-called, in sprains of the ankle is not especially new, for Dr. Gibney published his first paper in 1893, but it does not seem to be generally known, and as it is generally a successful form of treatment I will endeavor to describe it. A tight bandage of adhesive plaster is applied to the ankle and the lower section of the leg as soon as the patient is seen by the physician, and no attention is paid to the use of rest after the first twenty-four hours. Ordinary adhesive plaster is cut into strips one-half inch wide, and in two lengths, respectively twelve and eighteen inches. One of the longer strips is placed around the ankle parallel with the sole of the foot, beginning in front of the big toe, carrying the strip around the ankle just above the contour of the toe and bringing the end back across the top of the foot to the point where the strip began, overlapping this initial strip with a parallel piece. Care must be taken to draw these strips as tightly as possible for the bandage when completed. After applying these two strips another strip should be placed at right angles to them, which makes it run parallel to the back of the leg; for this purpose one of the twelve inch strips should be selected. The strips should begin well behind and above the ankle, and carried down around the sole of the foot and brought up on the other side of the leg, making, as it were, a stirrup for the foot. Now the strips should be applied alternately; first, one around the ankle parallel with the sole, then one parallel with the back of the leg, each one overlapping the one previously applied. This should be done until the entire foot is neatly enclosed in adhesive plaster, having the appearance of a shoe in which part of the heel has been cut away. Over this should be placed an ordinary roller bandage. The patient should be cautioned to be careful for a few days. The dressing can be kept on until the pain and swelling subside.

It is surprising how much relief this treatment gives to a sprained ankle. As a rule it astonishes the patients to whom it is applied.

—The Duke of Cambridge has announced the gift of $600,000 for the establishment of a public tuberculosis sanatorium in England.

The Medical Times.

A MONTHLY JOURNAL

OF

Medicine, Surgery, and Collateral Sciences.

EDITORS:

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Communications should be addressed to the MEDICAL TIMES, 180 West Fifty-ninth Street, Central Park South.

Published on the first of each month by The Medical Times Company, 180 West 59th St., New York.

Changes of standing advertisements and communications in regard to that department, should be addressed to the Advertising Manager, BENJ. LILLARD, 108 Fulton Street, New York.

NEW YORK, DECEMBER, 1901.

"Do not part with your illusions. When they are gone you may still exist, but you have ceased to live."

MARK TWAIN.

THE present issue of THE TIMES ends the twenty-ninth year of its publication, and we want to assure our readers that we are well satisfied with the result of the action in reducing the subscription rate to one dollar per annum. Our subscription list has more than doubled since the change was made, and we hope to improve the quality and practical usefulness of the publication, so that it will gain much faster in the year to come. Our readers are urged to send articles for publication—long or short—on any subject of interest to the profession of medicine.

THE REVOLUTION.

THE revolution which has cleared the moral atmosphere of this city as it has never been done before, is more far-reaching than would appear to the superficial observer. The reform which good citizens will expect and insist upon will give us cleaner streets as well as houses, and cleaner hearts as well as hands. Already the outlook is brighter, even with the new administration six weeks off, and what may we look for when it really comes into power? With a second Waring in the street cleaning department, and a reorganized Board of Health worthy our city, both free from the trammels of politicians, New Yorkers will again feel that their city is worth living for, after all.

The medical profession is not only interested in cleaner streets and an efficient Health Board, but it is also looking for a reorganization of our hospital service upon a plan which will forever remove it from the domain of politics, and place the tenement-house question upon such a sanitary foundation that it will not be a menace to those who may chance to come in contact with it.

We regret to say that the practice of "working for one's pocket all the time" has contaminated the medical profession to an alarming extent! We see it on every hand, manifested in various ways, in public and in private practice. It has reached a degree to be recognized by the general public and its disgust for such methods reflects upon the whole profession.

With the reform in civic affairs should come also a reform in medical politics and ethics. How this is to be done is a difficult problem not easy to solve. Some of the abuses in hospital management have been carefully and intelligently portrayed by Dr. Thomas J. Hillis in a series of papers read before the County Medical Society. The subject is worthy of consideration by a committee, of which Dr. Hillis should be chairman. The profession is not altogether blameless in these hospital discrepancies, and the reform should come through the County Society.

AN ADDITIONAL CONFIRMATION THAT AMERICANS ARE GROWING LONGER LIVED.

THERE has recently been published an additional confirmation of the assertion made in the last issue of the TIMES that Americans are growing longer-lived. It is now known that this is a matter which is being taken up seriously in financial circles, for the Actuarial Society of America is compiling a new series of tables for the life insurance companies of the United States, which the society claims will show a decreased mortality among the people of this country. According to these official reports the average life of Americans is four and one-half years longer than it was twenty years ago. The practical result of this investigation will be that it will have the effect of reducing the premium rates of life insurance as they are now charged, for it is well known that the whole life insurance business is based on mortality tables.

As it was pointed out previously, the purification of food, the advances in medicine and surgery, and the introduction of hygiene into daily life, are all going to prolong the existence of the man of the twentieth century if he will educate himself to enjoy his existence with contentment.

The following statement, furnished by the well-known insurance statistician, F. L. Hoffman, illustrates this advance:

At present in Massachusetts there are expected to survive to the age of fifty 5,275 persons out of every 10,000 born, against 4,409 survivors out of the same number in 1855. At the age of eighty the number of survivors is 1,266 at present, against 1,059 half a century ago.

Therefore, most valuable lives, valuable because of enhanced intelligence and comprehension, have been saved to the State because of the sanitary and other social progress made during the last fifty years.

Insurance men are vitally interested in all problems affecting the duration of life in other countries, since many policyholders are of foreign birth, and a not in-

considerable number of risks are taken on the lives of persons who, as missionaries, traders, army officers, etc., intend to travel or reside in tropical and other foreign countries. Hence our knowledge regarding these countries and the intimate relation of race to longevity is reasonably complete.

The present state of vital statistics does not permit us to answer definitely so complex a question as to whether human life is actually, taking all things into account, of longer duration in America, than in any part of Europe. But from such data as have come to my knowledge it appears that the Norwegians and Swedes enjoy probably a longer duration of life than the average American, but the sanitary progress made in the United States during the past fifty years has been so notable that the vital efficiency of our people has undergone a material improvement.

This country is more healthy, with the foregoing exception, than any part of Europe, and the effect of the intense struggle for success on the part of our business men and women is more than balanced by our higher standards of living, which tend to make our people continue along the path of improvement.

While it is impossible to arrive at final conclusions on the basis of our industrial or ordinary experience, because of the careful medical selection exercised in insurance practice, the facts established by other investigations indicate that the adult foreign-born citizen is subject to a lower mortality in the United States than in his own country, and it may be safely assumed that any inherited tendency to early decay will be more than balanced by the healthier conditions of life in our country.

This, for instance, is true of Hungarians and Poles of the Pennsylvania coal regions, where the mortality rate is very low, while the death rate in their own countries ranks as the highest in Europe.

F. S. Crum has also compiled the statistics in regard to the mortality from consumption since 1871. He finds that there is a marked falling off in the rate in Vermont, Rhode Island, Massachusetts, Connecticut, New Jersey, Pennsylvania and New York. He finds that women have advanced more than men. The percentage from 1871 to 1885, per ten thousand of the population was 33.3; from 1885 to 1900 it is 22.8. He does not find this reduction, however, in the case of negroes; the mortality in this race in many places, such as the District of Columbia, being six times that of the white race, up to the age of nineteen years.

THE MEDICAL ASPECT OF THE ANARCHIST.

IT is a well known fact that criminals, lunatics and anarchists meet on one common basis in being enemies to the welfare of society. The actions of these three classes result in murder, assassinations, burglaries, or other crimes against society. There is a slight distinction, however, in the method with which they do their work. The crook, the burglar, or the common murderer is an enemy of society in its individual capacity more as man against man. The lunatic is also an enemy to the individual, but in a more indefinite way, and his influence may spread over wider areas because of the lack of system of thought in his work, but the anarchist thinks nothing of the individual, but wages his war against society as a whole. In an interesting article in the September issue of the *Medical Review of Reviews*, Dr. W. D. Noyes takes up the psychological study of anarchy and draws some interesting conclusions. He divides anarchists into two varieties—those who show excessive development of certain aggressive traits, and those who are weak and show the lack of self-control to a marked degree. Those who lead or "suggest" form the first class, while the flock of feeble-minded anarchists who respond to the suggestions of the master minds, as certainly as the subjects of a professional hypnotist, form the second.

The word "degenerate" undoubtedly covers both these classes. They are the outgrowth of centuries of oppression in European countries, and they have brought to America the inborn feelings of discontent and dissatisfaction with any form of society.

It has been the fortune of the writer to mingle extensively with the circle of society among which anarchists might reasonably be supposed to be most common, but he has never found any anarchist of the pronounced type who was not foreign-born or the child of foreign-born parents. It is almost an invariable rule, the man who has American ancestry is never an anarchist, no matter what might be his station in life. Dr. Noyes believes that the mass of unsuccessful men who develop radical views of socialism are easily subject to the more radical mental contagion when an annihilation of the existing order is suggested. He looks upon it as an expression of the types of hysteria in man as a mass, not as an individual, and he places the anarchist on the borderland of mental abnormality, where the neuropath and psychopath are found. Dr. Noyes believes that as an individual the anarchist is comparatively harmless, while as a class he is the most dangerous element of modern society, and he believes the only remedy to prevent his mental contagion and the passing of the danger of suggestion, is to break up anarchistic headquarters and segregate the leaders.

SCIENCE VS. COMMON SENSE.

AN amusing solution of the question of improvement of the human race was recently given by Francis Galton in his Huxley lecture before the British Anthropological Society. This was to be accomplished by the State absolutely forbidding marriage to any but the healthy and those of superior standing mentally and physically. This class would constitute an aristocracy, doing nothing in the way of labor which would cause physical deterioration, all this being done by the less fortunate class. This weeding out process, in the estimation of the learned professor,

would in time so perfect the human race mentally and physically as to obliterate crime and disease and unite all the nations of the world into one happy family. This utterance, in sober earnest, before one of the most illustrious scientific bodies in the world, is an illustration of how little practical sense is shown among some of our ablest scientists, when their attention is directed away from strictly scientific problems to the solving of some of the most important social questions of the day. It is fortunate for our country that in the teaching faculties of our great educational institutions there is a blending of the most profound scientific attainments, the ablest scholarship, with that practical common sense which seeks to accomplish its great work along the lines of evolution so clearly marked out by Nature in her ever unfolding laws.

SANTONINE.

THIS drug, which has generally been looked upon only as reliable anthelmintic and very seldom thought of except in certain forms of verminous trouble, is now found to possess a much wider range of action and to be of special value in the treatment of epilepsy and the pains of locomotor ataxia. The physiological action of this drug is markedly upon the nervous system; taken in large doses, producing great weakness, tremor, perspiration, coldness of the extremities, vomiting, and not infrequently quick, sharp convulsions, terminating in death from paralysis of respiration.

The effect upon the vision is very marked; at first, everything appears blue, which speedily turns to a greenish yellow, which may be followed, if large doses have been taken, by total blindness lasting a week or more. The physiological action of this drug is so marked in its effect upon the nervous system that we obtain a clue to a remedial agent of great power in influencing general changes of nervous sensibility. In its action we have an excellent reproduction of the symptoms of epilepsy and the pains of locomotor ataxia, and Lydstone claims that he has obtained better results from it in epilepsy than from the bromide treatment. The dose recommended in these cases is two grains three or four times a day, gradually increasing to fifteen grains at a dose, if that amount is well born. In the fulgurant pains of locomotor ataxia we have given two grains three times a day with better results than from any other drug, the pain almost entirely disappearing while under its influence. Studying the action of drugs, from the dual standpoint, there can be no doubt of the wide range of action of santonine on the nervous system and its great value in many other diseases.

ELECTRICAL OZONE AND LIGHT TREATMENT.

THE treatment of disease by the respective agencies of light and electricity, encouraging as many of its results have been, is still in its infancy. Naturally, also, the imperfect scientific development of these methods, so far, has left open a tempting field for the operations of charlatans, by which electrical treatment, especially, has been decidedly lowered in public estimation. We are glad, therefore, to perceive, by an editorial notice in the *Medical Times and Hospital Gazette,* of September 28th, that in London, an institution has recently been founded "in which the appliances used, the methods of application, and the whole management are so excellent that a beginning appears at last to have been made for the scientific employment of electrical treatment." The main principle of treatment, we are told, consists of subjecting the body to the influence of powerful acting rays of light, and in an atmosphere electrically decomposed, and so containing a large amount of nascent ozone, while the patient, unclothed, lies on a glass slab in a small cabinet, and a current of high potential force is passed into the body. In other words, the patient is exposed to processes whereby tissue activity and elimination are obtained in the highest possible degree. In a very few minutes after the patient is laid upon the slab, profuse perspiration takes place, and the pure ozone inhaled sets up, not only more rapid oxidation of the blood, but more complete elimination of urea, uric acid, and other effete materials from the system. The best results, evidently, would most likely be obtained in cases of gout and rheumatism, where the eliminating processes would be most useful; in cases of chronic bronchitis, emphysema, and dilated heart, where the flushing of the pulmonary cells, and the more complete oxidation of the blood by the ozone should immensely assist the restoration of the normal lung activity; in chronic inflammatory conditions, such as thickened joints, and even plastic effusions around internal organs.

We are not aware that the combined influences of light, ozone, and electricity, as above referred to, have hitherto been investigated or employed by members of the profession in this country. It seems to us that an experiment in this direction, under proper auspices, and on a suitable foundation of capital, might well be undertaken here.

IMPROVED SYSTEM OF SEWAGE.

MANY small cities throughout the country not within reach of rivers will install septic-tank systems for the disposal of their sewage. The system, while not a new process, depends for its efficiency on the practical working of several of the latest scientific discoveries. There are nearly 200 such plants in England, and, so far, about a dozen in the United States.

The basins or reservoirs for La Grange, Ill., are now almost complete, and the plant will be connected with the city sewer mains by next month. A month later the drainage, which has involved La Grange in troublesome litigation with neighboring property owners, will be as pure as a woodland spring.

When the septic tanks once get into proper condition they will purify the sewage without care or watching. Microbes generated by the sewage itself are colonized in the tanks until they become a force capable of changing

into water and gas in twenty-four hours as much solid matter as may flow into the receptacles. The expurgated water constantly flows from one end while the gas rising through the top furnishes the fuel which is to keep three large-sized gas lamps burning.

The La Grange septic-tank system is the largest in this country. The three air-tight compartments of the cement tank have a capacity of 32,500 cubic feet. A plant of this capacity will take care of a town much larger than 6,000 persons—the population of La Grange.

CONSUMPTIVE HOSPITAL.

THE buildings on Blackwell's Island which were obtained by the Manhattan State Hospital when the Ward's Island Hospital was removed to the insane asylum under the name of the Metropolitan Hospital, will soon be vacated by the insane patients now quartered there and filled with tuberculous patients from the other hospitals of the department forming the consumptive pavilions of the Metropolitan Hospital. This movement is in every way desirable, as it isolates tuberculous patients completely from the other departments of the hospital, and, while securing increased facilities for successful treatment, prevents that spread of the disease which otherwise can hardly be avoided. The tuberculous germs are disseminated from the sputa and it is an interesting fact that the disease has rapidly increased within the past few years in Norway and Sweden, owing to the increased use of tobacco by even the youngest boys and the consequent free expectoration.

HUMAN AND BOVINE TUBERCULOSIS.

THE experiments recently made in the New York Bacteriological Laboratory of the Board of Health, and which will be continued for some time, have in a measure confirmed the theory recently brought into prominence by Koch, of the non-identity of human and bovine tuberculosis. All the calves upon which the test was tried reacted to the tubercular test, but the reaction was so slight that it was considered of minor importance. The calves killed failed to reveal any tubercular bacilli, and it was thought the slight infection indicated by the tuberculin test might have been diminishing and not progressing. The experiments now in progress will be continued until the most positive results are obtained. A few days since a young lady in Brooklyn was inoculated with the bovine germs, so strong was her conviction and that of the physician that no injurious results would follow. It is too early at this writing to record the results. In the meantime, with a full knowledge of the germs, a most active investigation is being made by our ablest scientists in a minute study of all its details, with a fair prospect of a remedy sufficiently powerful to destroy the tubercular bacilli and bring about a cure of this universal and most fatal disease, at least in its earlier stages. It is claimed that such progress has been made that carefully conducted tests will show that the desired effects have been obtained.

THE deaths in St. Louis, Mo., and Camden, N. J., said to have come from tetanus due to diphtheria antitoxine in the one case, and vaccination in the other, will cause a serious set-back in the practice of these important prophylactics. We have not sufficient data at this time upon which to express an opinion as to the merits of these reports, but shall have to wait for the investigations which are to follow.

It looks as if it would have the effect of restricting municipal manufacture of serum of every kind, in competition with well-known and reliable commercial houses, which are more careful in their products than irresponsible health boards.

In respect to vaccination, we feel that there is not sufficient care used in the selection of cases for this treatment.

In the case of school children it is practised indiscriminately, regardless of the condition of the subject to be vaccinated.

There are many things which should be taken into account by the vaccinator, the most important of which is the physical condition of the one to be vaccinated. If this unfortunate occurrence should have the effect of reforming the methods employed in its practice, it will have done some good with all its harm.

The latest report from Camden states that the tetanus was due to infection from negligence in the care of the wound.

THE Pan-American Emergency Hospital has finally closed, November 2d, after having treated over 6,000 patients. Dr. Roswell Park, the medical director, and the assistant, Dr. Kennason, and Dr. Wilson, the sanitary officer, with the staff of resident physicians and nurses, have done excellent work. The exhibit of the medical department of the Navy and the Marine Hospital Service, as well as that of the Field Hospital of the medical department of the Army, will be transferred to the coming exhibition at Charleston. The very full and excellent exhibit relating to the public health will be included in that relating to the natural arts now being made up for shipment for Charleston.

FROM the United States Quarantine Service of Western Alaska we learn that the natives are rapidly disappearing from the effects of disease. At least one-third of the native population at Cape Nome, Prince of Wales, Nome, Port Clarence, St. Michaels, Kuskokwim, Unalaska, Pribyloff Islands, Nunivaki Island and St. Lawrance Island, and those along the Yukon River, have suffered from an epidemic of measles.

BIBLIOGRAPHICAL.

A Handsome Group of Portraits.

About a year ago, within the short period of three weeks, four eminent and distinguished physicians departed this life. Two of these well known men (Hunter McGuire and Lewis A. Sayre) were surgeons and two (Jacob M. DaCosta and Alfred L. Stillé) physicians, and three of them were ex-Presidents of the American Medical Association. Believing that the rank and file of the profession would appreciate and preserve portraits of these representative practitioners and teachers, the Arlington Chemical Company commissioned a competent artist to paint them in oil in the shape of a panel suitable for framing, and have reproduced the painting for distribution to their friends in the profession. This handsome and thoroughly worthy group of portraits is now being mailed and if any physician is, perchance, omitted from the list, a request will bring a copy.

A Laboratory Course in Bacteriology. For the use of Medical, Agricultural, and Industrial Students. By Frederic P. Gorham, A.M., Professor of Biology, Brown University; Bacteriologist to the Health Department, Providence, R. I. 12 mo. volume of 198 pages, with 97 illustrations. Philadelphia and London: W. B. Saunders & Co., 1901. Cloth, $1.25 net.

Bacteriology is essentially a laboratory study. It is only by actual laboratory work that it can be taught in such a manner as to serve any useful purpose. It is also a subject of very general scientific interest. Courses in bacteriology are no longer confined to the medical schools, but are being introduced into colleges and agricultural and industrial schools. This volume has been prepared as a guide to the practical details of laboratory work. It is intended to present the subject in such a general way as to lay a broad foundation for later specialization in any branch of bacteriology. By a judicious selection the course can be made to conform to the requirements of medical, agricultural, or industrial students.

Saunders' Medical Hand-Atlases. Atlas and Epitome of Special Pathologic Histology. By Docent Dr. Hermann Dürck, of the Pathologic Institute of Munich. Edited by Ludvig Hektoen, M.D., Professor of Pathology in Rush Medical College, Chicago. Vol. II.—Liver; Urinary Organs; Sexual Organs; Nervous System; Skin; Muscles; Bones. With 123 colored illustrations on 60 lithographic plates and 192 pages of text. Philadelphia and London: W. B. Saunders & Co., 1901. Cloth, $3.00 net.

This volume continues the subject of Pathologic Histology in the Saunders Series of Hand-Atlases, and is, if anything, even handsomer than its companion volume issued some months ago. As in all the volumes of this well-known series of books, the illustrations are the special feature. The subject of pathologic histology is particularly adaptable to illustrative treatment. Indeed, in no other way can the subject be adequately presented in a text-book. The colored lithographs of this volume are beautifully reproduced, and are extremely accurate representations of the microscopic changes produced by disease. The great value of these plates is that they represent in the exact colors the effect of the stains which are of such great importance for the differentiation of tissue.

The text portion of the book is admirable, and, while brief, is entirely satisfactory in that the leading facts are stated, and so stated that the reader feels he has grasped the subject extensively. The work is modern and scientific, and altogether forms a concise and systematic view of pathological knowledge.

The Principles of Hygiene: A Practical Manual for Students, Physicians, and Health Officers. By D. H. Bergey, A.M., M.D., First Assistant, Laboratory of Hygiene, University of Pennsylvania. Octavo volume of 495 pages, illustrated. Philadelphia and London: W. B. Saunders & Co., 1901. Cloth, $3.00 net.

This book is intended to meet the needs of students of medicine in the acquirement of a knowledge of those principles upon which modern hygienic practices are based, and to aid physicians and health officers in familiarizing themselves with the advances made in hygiene and sanitation in recent years. The book is based on the most recent discoveries, and represents the practical advances made in the science of hygiene up to date.

Among the important subjects considered are Ventilation, Heating, Water and Water Supplies, Disposal of Sewage and Garbage, Food and Diet, Exercise, Clothing, Personal Hygiene, Industrial Hygiene, School Hygiene, Military and Naval Hygiene, Habitations, Vital Statistics, Disinfection, Quarantine, etc. The idea of the book is to give the reader a clear understanding of the general principles of this broad subject. The rapid strides made in our knowledge of the entire subject has rendered such a book, reflecting the more recent discoveries, a necessity to physicians and students of medicine.

A Text-Book of Embryology. By John C. Heisler, M.D., Professor of Anatomy in the Medico-Chirurgical College, Philadelphia. *Second Edition, thoroughly Revised.* Octavo volume of 405 pages; handsomely illustrated. Philadelphia and London: W. B. Saunders & Co., 1901. Cloth, $2.50 net.

The facts of embryology having acquired in recent years such great interest in connection with the teaching and with the proper comprehension of human anatomy, it is of first importance to the student of medicine that a concise and yet sufficiently full text-book upon the subject be available. In its first edition the work met this want most admirably, and in its present form it will prove even more valuable. The work has been thoroughly revised, and such additions have been made as the progress of the science has rendered necessary. Moreover, the entire work has been generally improved. The chapter treating of the Deciduæ and the Placenta has been rewritten, as has also the greater part of that upon the Chorion. In addition to these changes, several new illustrations have been added.

We have commended this book to our senior students in literary colleges with much satisfaction, as well as to medical students.

The Medical News Visiting List for 1902. Seal Grain Leather, $1.25. Thumb-letter Index, 25 cents extra. Philadelphia and New York: Lea Brothers & Co., Publishers.

A Visiting List is an indispensable convenience for the active practitioner. The *Medical News Visiting List* is issued in four styles, adapted to any system of records and any method of keeping professional accounts.

HUMAN PHYSIOLOGY. Prepared with special reference to Students of Medicine. By Joseph Howard Raymond, A.M., M.D., Professor of Physiology and Hygiene in the Long Island College Hospital, and Director of Physiology in Hoagland Laboratory, New York City. *Second Edition, Entirely Rewritten and Greatly Enlarged.* Handsome octavo volume of 668 pages, 443 illustrations, 12 of them in colors, and 4 full-page lithographic plates. Philadelphia and London: W. B. Saunders & Co., 1901. Cloth, $3.50 net.

Since the issue of the first edition of this work, scientific research has made such rapid progress in the study of human physiology, that the author deemed it imperative to entirely rewrite his text. In revision the general subdivision of the subject has been retained, adding, however, a section on Histology, which will be found fully adequate for a thorough understanding of the physiologic anatomy of the organs whose functions are under discussion. Special attention has been given to the influence of alcohol upon mouth and gastric digestion, to the subject of deglutition and the gastric movements as observed by use of the Röntgen rays, and to the physiologic significance of gastrectomy.

Internal secretion, thyroid treatment, blood coagulation and absorption, and the most recent contributions on the genesis of uric acid have been concisely, though thoroughly, considered.

Laryngeal photography, by Professor French, and the subject of voice-production have been extensively discussed, elucidating the text by numerous well-selected illustrations.

In the portion of the volume devoted to the Nervous Functions, many changes have been introduced, necessitated by the general acceptance of the "neurone theory;" and the sections treating on the senses of sight and hearing have also been greatly elaborated.

In the discussion of the Reproductive Functions, stress has been especially laid upon the divergent views regarding the relation of menstruation to ovulation.

In every way the new edition of this most valuable work is highly commendable. It will be found useful and practical, not only to the student, but also to the practitioner, as an up-to-date book of clear, concise, accurate information.

NERVOUS AND MENTAL DISEASES. By Archibald Church, M.D., Professor of Nervous and Mental Diseases and Head of Neurological Department, Northwestern University Medical School; and Frederick Peterson, M.D., Chief of Clinic, Department of Nervous and Mental Diseases, and Clinical Lecturer on Psychiatry, College of Physicians and Surgeons, New York. *Third Edition, Revised and Enlarged.* Handsome octavo volume of 870 pages, with 322 illustrations. Philadelphia and London: W. B. Saunders & Co., 1901. Cloth, $5.00 net.

This work has met with so favorable a reception from the profession that two editions have been exhausted in as many years. It is evident that it fills a distinct want in medical literature, and it is unique in that it furnishes in one volume practical treatises on the two great subjects of Neurology and Psychiatry.

In the present edition the book has been thoroughly revised in every part, both by additions to the subject matter and by rearrangement wherever necessary, to make it more acceptable to both practitioner and student. Several sections have been entirely rewritten, and there have been added a number of new illustrations, an increased amount of tabular matter, and a series of diagrams that have proved of assistance in the solution of diagnostic problems.

It is a carefully prepared text-book, the literature of the subjects of which it treats having been sifted, digested and revised, in the light of the extensive experience of its authors. The text is necessarily thoroughly condensed, in order to include so much in a single volume.

We have no hesitation in commending this book to our readers.

DISEASES OF THE DIGESTIVE ORGANS IN INFANCY AND CHILDHOOD, with chapters on the Diet and General Management of Children, and Massage in Pediatrics. By Louis Starr, M.D., late Clinical Professor of Diseases of Children in the Hospital of the University of Pennsylvania; Consulting Pediatrist to the Maternity Hospital, Philadelphia, etc. *Third Edition, Rewritten and Enlarged.* Illustrated. Published by P. Blakiston's Son & Co., 1012 Walnut St., Philadelphia, 1901. Price, $3.00 net.

In this age of progress the lapse of ten years is a long time, and any book that depends upon clinical experience for its usefulness would have to be revised and in some instances rewritten. This is the case with the book before us. It is practically a new book. The subject of dietetics and general regimen naturally holds the dominant position, as it should in such a work, but the question of therapeutics has not been neglected. It is a practical book for daily use at the bedside.

PEDIATRICS. The hygienic and medical treatment of children by Thomas Morgan Rotch, M.D., Professor of Diseases of Children, Harvard University. Third edition, rearranged and rewritten. Illustrated by numerous engravings and colored plates. J. B. Lippincott Co., 1901.

The work of Dr. Rotch was so thoroughly scientific, so practical and exhaustive, and so fully met the wants of the profession that the first edition was exhausted in less than a month. The second edition of five thousand copies soon found its way into the hands of the profession. The subject of Pediatrics has made such advances during the past six years that it was necessary to incorporate so much additional matter into the third edition as to make it practically a new book. The practical character of the book has been emphasized by thoroughly systematizing the etiology symptomatology and diagnosis of the various diseases.

Special attention has been devoted to the anatomy and physiology of early life and to the advances which have been made in infant feeding. The price has been reduced to $6. Cloth.

A TEXT-BOOK OF MEDICINE. By Adolf Strümpell. Thoroughly American edition. Translated from the thirteenth German edition by Herman F. Vickery, A.B., M.D., and Philip Coombs Knapp, A.M., M.D., with editorial notes by Frederick C. Shattuck, A.M., M.D. With 185 illustrations in the text and one plate. D. Appleton & Co., 1901.

The work of Prof. Strümpell is as well known and as highly esteemed in this country as in Germany. Since the second edition of this translation, in 1893, seven new editions have appeared in Germany, so that the work has been almost wholly rewritten, retaining all the merits

of the earlier productions with the advantage of being fully in line with the most recent medical investigations. A chapter on the plague has been added, and various notes by the editor.

A TEXT-BOOK OF OBSTETRICS. By Barton Cooke Hirst, M.D., Professor of Obstetrics in the University of Pennsylvania. Third edition. Thoroughly revised and enlarged. Royal octavo, 873 pages, with 704 illustrations, many of them in colors. Philadelphia and London: W. B. Saunders & Co., 1901. Cloth, $5.00 net.

A work on obstetrics by so eminent a teacher as Dr. Hirst, who for the past twelve years has served as gynecologist and obstetrician in eight of the principal hospitals of Philadelphia, could hardly fail of meeting public approval. The outcome of a large practical experience, it is clear, comprehensive, original, and up-to-date. The illustrations form one of the features of the book. These are numerous and are works of art, most of them being original.

In this edition the book has been thoroughly revised. New matter has been added to almost every chapter, notably those treating of Diagnosis of Pregnancy, the Pathology of Pregnancy, the Pathology of Labor, and Obstetric Operations. More than fifty new illustrations, including three colored plates, have been introduced. The literature of the subject has been carefully reviewed, and the most important references since the last edition are given.

A MANUAL OF THE PRACTICE OF MEDICINE. By George Roe Lockwood, M.D., Professor of Practice in the Woman's Medical College of the New York Infirmary. Second edition, revised and enlarged. Octavo volume of 847 pages, with 79 illustrations and 20 full-page plates. Philadelphia and London: W. B. Saunders & Co., 1901. Cloth, $4.00 net.

This work presents the essential facts and principles of the practice of medicine in a concise and available form, adapted to meet the requirements of those who heretofore have been obliged to resort to the larger works of reference.

The entire book has been subjected to a thorough revision. Many portions have been entirely rewritten and a number of subjects have been introduced. Among the new sections may be mentioned Bubonic Plague, Gastroptosis, Gastric Analysis, and Reichmann's Disease. The subject of Malaria has been entirely rewritten. The section on Diseases of the Digestive System has also been largely rewritten, especially the following subjects: Gastritis, Dilatation of the Stomach, Gastric Atony, Ulcer of the Stomach, Gastric Neurosis, Enteritis, Colitis, etc.

The description of diseases and their treatment given are terse and clear, and the work gives in a most concise manner the points essential to treatment usually enumerated in the most elaborate works.

MODERN OBSTETRICS: GENERAL AND OPERATIVE. W. A. NEWMAN DORLAND, A.M., M.D., Assistant Demonstrator of Obstetrics, University of Pennsylvania; Associate in Gynecology, Philadelphia Polyclinic. *Second Edition, Rewritten and greatly enlarged.* Handsome octavo, 797 pages, with 201 illustrations. Philadelphia and London: W. B. SAUNDERS & Co., 1901. Cloth, $4.00 net.

The first edition of this book was received with almost unanimous expressions of approval by the profession. In the revised editions it has been entirely rewritten and very greatly enlarged, so that it now forms a complete text-book of obstetrics along the lines that make the original edition so useful. A number of entirely new sections have been added, including chapters on the surgical treatment of puerperal sepsis, and the rôle of the liver in the production of puerperal eclampsia. Especial attention is given to the more recent pathology of obstetric conditions, as well as to the physiology and hygiene of pregnancy and labor; a more accurate elaboration of the mechanism of labor has been adopted. By new illustrations the text has been elucidated, and the science of modern obstetrics is presented in an instructive and eminently acceptable form.

PATHOLOGICAL TECHNIQUE. A Practical Manual for Workers in Pathological Histology, including Directions for the Performance of Autopsies and for Clinical Diagnosis by Laboratory Methods. By Frank P. Mallory, A.M., M.D., Associate Professor of Pathology, Harvard University Medical School; and James H. Wright, A.M., M.D., Instructor in Pathology, Harvard University Medical School. Second edition, revised and enlarged. Octavo, 432 pages, with 137 illustrations. Philadelphia and London: W. B. Saunders & Co., 1901. Cloth, $3.00 net.

The title of this manual gives an excellent idea of the line of instruction followed by the authors. The clearness of description and the clever manner in which facts are stated make the work easy of comprehension and most desirable in the pathologist's laboratory. We note with pleasure several new and beautiful micro-photographs of bacteria and other micro-organisms, as well as a description of the bubonic plague and a number of improved methods in histological work.

P. Blakiston's Son & Co., of Philadelphia, has issued the "Physician's Visiting List for 1902," which is the fifty-first year of its publication.

ESSENTIALS OF OBSTETRICS. By Charles Jewett, A.M., M.D., Sc.D., Professor of Obstetrics and Gynecology in the Long Island College Hospital, and Obstetrician and Gynecologist to the Hospital, etc. New (second) edition, revised and enlarged. In one 12mo. volume of 376 pages, with 80 engravings and 5 colored plates. Cloth, $2.25 net. Lea Brothers & Co., Publishers, Philadelphia and New York.

Dr. Jewett has been very successful in placing the essential facts and principles of obstetrics within the easy grasp of the student. The descriptions of the organs of generation are so clear that the book will be of immense value to the nurse and the intelligent mother, as well as to the student of medicine.

Some Coughs Produced Outside the Chest.—W. N. Robertson (*Australasian Med. Gazette*) has found the cause of cough often referable to other organs than those in the chest. His experience includes coughs due to intestinal and gastric parasites, foreign bodies in the ear, enlarged turbinates, hysteria, enlarged tonsils and uvula, tumor of the epiglottis, fleshy bands in the pharynx, etc. Contrary to experience of most practitioners, he has not found enlarged lingual tonsil to be a cause of cough.

CORRESPONDENCE.

THE HOSPITAL PROBLEM.

A large amount of printed matter might be collected from the various medical journals, dealing with the question of hospital management. This matter is partly in the form of letters to the editors, partly of addresses to societies, partly of editorial comment. With practical unanimity, all these articles agree that there is a serious issue in many of the large cities, between the interests of the majority of the medical profession and of that part at present in control of hospitals and dispensaries. The discussion has also been carried so far that it is apparent, both to the medical profession and to intelligent members of the laity, that the services of physicians to so-called charity patients represent a *quid pro quo;* in fact, that many physicians who do not feel the spur of actual financial need, prefer charity to paying practice.

If an apology be needed for adding to the literature on this subject, we may say that altogether too much of the discussion has been carried on, in a partisan spirit, by those who wish to retain and those who wish to obtain hospital services. The latter claim two grievances: (1) That gratuitous attendance is given to unworthy applicants, so as materially to interfere with the legitimate business of private practice, while society is damaged by fostering pauperism; (2) that the deserved charity practice which may properly be utilized for clinical experience, is monopolized by a comparatively small part of the profession, while the ones who need it most are excluded from its benefits. The TIMES holds that the subject should be discussed from the standpoint of neither party, but from a platform at least as broad as the interests of the entire medical profession and, preferably, of society at large.

So far as the immediate interests of society are concerned, it must be admitted that the tax-payer enjoys an anomaly in the willingness, and even the eagerness, of the medical profession to care for anyone who either needs or is willing to accept gratuitous attendance. It is almost the one thing for which the tax-payer does not pay liberally, or even extravagantly, and, with rare exceptions, the service is as good in quality as it is ample in quantity. We question seriously, however, whether, in the long run, it pays to take something for nothing. Even if medical charity is confined to needy cases, either society as a whole is pauperized or some abnormal condition exists, that a physician gladly accepts as adequate remuneration, the mere pleasure or indirect profit of rendering services. Business men look askance at schemes which promise an unwarrantably large return, and, in general, their instinct proves correct. Whether the present excess of supply over demand for physicians will react harmfully on society as a whole, or whether the suffering will continue to affect only the medical profession, is a question that we cannot pretend to answer, but we believe that a radical violation of economic laws must always be attended with serious loss for some one. In passing, we would throw out the suggestion that, as a fountain can not rise higher than its source, so the need of clinical material for training physicians—which is often pleaded to support the present order of things—can not be greater than the need of those physicians when graduated.

From the standpoint of the medical profession as a whole, it seems to us that the present system may be criticised in that, barring the value of clinical experience to undergraduate students and internes, the tendency is to give clinical experience to those who need it least and to withhold it from those who need it most, and who would make, perhaps, the best use of it, in more rapidly fitting themselves to render better service to their private clientèle.

Lack of space forbids a thorough discussion of the intricate ways in which the two factors involved, the best interests of the profession and the best interests of society, react upon each other. We can only express the belief that, ultimately, these interests are identical. The only true solution of the problem is to make the hospital just as public to the medical profession as it is to the people who support it and to the patients for whom it exists. Under reasonable restrictions and inspection, such as is already provided for in some States, there can be no objection to the establishment of private hospitals for legitimate private advantages. The individual physician, the private association, the medical college, may with propriety seek their own advantage while rendering aid to the deserving poor.

On the other hand, we believe that public funds, whether raised by taxation and dispensed through official channels, or whether raised by public philanthropy, can not properly be turned to private ends even in a subsidiary way, and granting that the prime object of caring for the patient has been duly executed. In the face of the fact that there are practically no municipal or State hospitals, except for the insane or other defective classes, including acknowledged paupers, it is mere quibbling to hold that our present hospitals are private institutions and, therefore, subject to personal ends without criticism. The hospital should furnish gratuitously to needy patients, lodging, food, medicine, dressings, and other necessary therapeutic appliances, the services of internes and nurses. There can be no reasonable objection to having a staff to attend to patients who desire their services, or to act in an emergency. But the right of the patient to select his physician or of the physician to continue in charge of a transferred case, should not be interfered with. Manifestly, some supervision would be necessary to see that services are rendered with regularity, without charge to charity patients, with a fair degree of skill, and that unscrupulous physicians did not abuse their privilege to proselyte new patients. We have personally known of every one of these abuses, especially the last, existing under the present order of things, but we do not believe that the average conscience of the medical profession is so low as to render them of frequent occurrence under either the old or the proposed system.

No human method, and especially no radical change, is without its disadvantages. It may be objected that, to throw the doors open to the general profession, would result in a lower degree of professional service, especially in regard to surgical operations by ambitious but inexperienced young men. Even in this regard, we believe that less harm would be done than under the present system, when the ambition and proper professional interest of the physician are often weighed in the balance against the need of the patient for hospital care. If a young man is ambitious to operate, he will do so. It is his right, provided he honestly feels that his abilities lie in that direction. Is it better that he should operate in an aseptic room, with surgical appliances and skilled assistants at hand, and under circumstances which allow ready criticism of his methods, or in some attic or kitchen, hampered by lack of instruments and restoratives, and with no one who can either render efficient aid or needed criticism? Moreover, the plea that the average practitioner is not competent to care for the

charity patient, reacts with all the force of a boomerang upon those interested to uphold the present system. Generally speaking, the present hospital attendants are also the teachers who are responsible for the graduation of the private practitioners. If these latter are not to be trusted to care for charity patients in a hospital ward, why have they been turned loose upon a public whose lives are at least as valuable as those of paupers? We all know that practical experience is necessary in the making of a physician. Not more than one in ten can gain this experience as an interne. It can be gained more rapidly, under greater safeguards and with less damage to society as a whole, among the class of ward patients than in any other way. But it must be noted that we do not advocate reversing the present order of things, nor even dispossessing the present attendants at hospitals. We believe that they should enjoy all the prestige and all the experience which their established reputation naturally gains for them, but we believe that they should be contented with this tremendous advantage and not demand, also, an artificial and absolute prohibition of rivalry. This opinion is expressed not from partisanship with those who would be directly benefited, but because we believe that the best interests of all concerned is to snatch the weapon from the man with a grievance. There exists, at present, a spirit of antagonism to hospitals which bases its arguments on the attitude of the hospital itself. If every reputable practitioner finds the door of the hospital just as open to himself as it is to the tax-payer, or the philanthropist, or to the patient, his opposition will disappear, there will no longer be a possible conflict between his interest in a case and the welfare of the patient; the growing tendency to form private hospitals, which are inadequately equipped from mere lack of constituency, will cease; such patients as are not of direct and immediate interest to the attendant will be willingly turned over to the hospital staff. In short, the present bitterness and hostility will die from lack of grievances on which they may feed.

It will be noted that we have confined our attention to the free wards of the hospital. Many physicians believe that private patients should be cared for only in private establishments, holding that the combined system widens the gulf between pauperism and independence, since the expense of private rooms is increased to make up the deficit on account of ward patients. As to this point, we do not care to express an opinion. It is self-evident, however, that any man who attempts to monopolize a public institution in regard to patients in whom there is a pecuniary interest, places himself on the same level as if he were a politician trying to control public funds and public offices for his personal financial gain. B.

THE PREVALENCE OF G NORRHŒA.

It is a silly form of cynicism to assume that all men have been infected with gonorrhœa. Very naturally, the specialist in venereal diseases expects to find his male patients the objects of a present or past gonorrhœa, and he is in a position to present statistics against which other medical men and sociologists can offer only general impressions. In the first year of our practice, we attempted to secure from personal acquaintances an account of various past diseases, including the venereal ones, but only a small proportion of the men questioned were able or willing to furnish such statistics. Freedom from gonorrhœa may be due to several causes: good luck, bashfulness, virtue, and æsthetic considerations. We have met, in and out of the medical profession, a considerable number of male virgins, for which the French have a masculine word, *puceaux*. In a quiz class of five medical students, we found two who had been entirely virtuous. We have no sympathy with the notion that the country is less wicked than the city; in fact, it has sometimes seemed to us that the average country youth went to the city to seek out the worst places, of which the city youth of ordinary decency was aware, but towards which he had no inclination. Aside from any consideration of morals or good luck, there are many men who have no sexual desire or no courage to gratify it, and there are others whose passions can not be gratified by mere sexual union, aside from a certain degree of love and respect, which they manifestly could not feel for a prostitute. All things considered, we believe that not over seventy-five per cent., and perhaps not more than fifty per cent., of men ever have gonorrhœa, and we trust that hygienic education and moral training will decrease the prevalence of this disease as they already have decreased the prevalence of drunkenness. B.

A ROAD TO FAME.

At last the vista of fame is before us! No more toiling in vain for the recognition of our fellows; no more struggle to make ends meet; no more unrequited labor. The tardy favor of the fickle goddess has come at last; our name will be heralded throughout the land and substantial reward of the merit which we always knew we possessed is in sight. All this we owe to the *St. Louis Hospital Bulletin*, which has singled us out of the five or six hundred physicians of our town and has given us this glorious opportunity to obtain prominence, and which urges, "Don't let your modesty or lack of enterprise cause you to fail to reap the benefit of your accomplishments." It is estimated that we "have performed a number of credible (*sic*) as well as interesting operations or treated many rare cases," and reminds us that "There is no better index to the extent and character of a man's practice and ability than the number of actual cases he reports monthly in medical journals. These reports soon become topics for conversation at society meetings and clubs and frequently at public places, thus the laity soon learn what you are accomplishing and an unaccounted-for improvement in your practice occurs." All we have to do is to send on an article to the philanthropic masters of arts (of the art of advertising?) with five dollars and they will send us a hundred copies of their journal, stamped, and "in addition to what you send your friends, 10,000 others will see your article." We also have the opportunity to have our photograph printed with the article. But this, in the interests of art, we shall not insist upon. So we give fair warning to our friends, and enemies—for our selection for this unique honor from among so many, cannot but incite jealousy—that when we mail them marked copies of the *St. Louis Hospital Bulletin*, we are seeking fame and shekels, *via* the laity, at five dollars per fame, minus the hundred one-cent stamps. The excellence of this medium to fame is attested by the heading, "Devoted to Medical Science and Hospital Work." A. L. BENEDICT, M.D.

998 Main St., Buffalo, November, 1901.

—The degree of LL.D. was conferred by Yale University at its Bicentennial celebration upon Prof. William H. Welch, of Johns Hopkins University, and upon Dr. J. S. Billings, U. S. A., librarian of the New York Consolidated Library.

RETROSPECTIVE THERAPEUTICS.

The Treatment of Dysentery.—A. Plehn's method (*Med. Record*) is as follows: As soon as the disease has been diagnosticated, or is even suspected, the patient is given two tablespoonfuls of castor oil. This at once removes a large amount of infectious material and cleanses the intestinal canal. On the next morning the calomel treatment is begun. Every hour a tablet of one-half grain of calomel is given until twelve tablets have been taken, when a pause is made till the next morning. The same plan is carried out on the second and third days, after which 8 grains of subnitrate of bismuth are given at hourly intervals for twelve doses daily until recovery results. During the calomel course, and for several days longer, the mouth receives careful attention. After each dose of the drug, the mouth is rinsed with a wash of rhatany or salicylic acid, and any beginning tendency to salivation is combated by scrubbing the gums with swabs saturated with the above solutions. If these precautions are taken, the treatment rarely needs to be interrupted, and stomatitis occurs only in very unusual cases of idiosyncrasy. Any tendency to constipation, which sometimes occurs even before the calomel stage is over, should be met by the use of castor oil or enemas of salicylic-acid solution, while in the later days of the treatment, mineral waters may advantageously be employed. An important accessory is the proper regulation of the diet, which should consist wholly of fluids.

Passiflora Incarnata in Asthma.—Passion flower (Passiflora Incarnata) is not official in the U. S. P., and does not appear to have been well studied experimentally (*American Medicine*). Clinically it possesses hypnotic and antispasmodic powers, and in sufficient doses it would probably act as a narcotic poison. Even in moderate doses it may in some cases provoke nausea and emesis. The emetic properties may depend upon a different principle from that to which its sedative action is due. At all events, the combination of relaxant influences gives it peculiar value in allaying asthmatic paroxysms and in preventing their full development. It may be given in tincture or fluid extract as found in the particular pharmacy supplying the patient. The dose is from 10 to 30 minims well diluted and given from every 10 minutes to every half hour until relief is experienced, emesis caused, or drowsiness induced. We have never exceeded half a fluid ounce of the fluid extract in the course of 2 hours. Patients have fallen asleep after 6 doses of 10 to 20 drops each, given every 10 or 15 minutes, or after a single dose of 1 fluid dram. In 2 out of 8 cases its use produced but slight mitigation of distress and was abandoned. In 6 cases rebellious to other methods, it gave prompt relief.

New Remedy for Hemorrhoids.—Hall (*Lancet-Clinic*, March 23, 1901), led thereto by the effect of echinacea angustifolia on a suppurating wound of his finger, prescribed a mixture containing equal parts of the fluid extracts of Hamamelis Virginiana and Echinacea Angustifolia, for a woman for whom a surgeon had recommended an operation as the only means of effecting a cure. Two fluid drachms were directed to be injected into the rectum after each stool. This treatment was continued until six fluid drachms of the mixture had been used. The patient had prompt relief from pain, the hemorrhoids ceased to trouble her, and now she says that she is entirely well. If the medicine is too strong, it may be diluted with distilled water in the proportion of 1-7. The slight burning sensation experienced after the use of the mixture soon passes away, and the peculiar cooling effect of the echinacea is felt by the patient.

A Handy Device in the Treatment of Opium Narcosis.—Dr. Lyne, in the *Va. Med. Semi-Mthly.*, calls the attention of the medical profession to a means always at hand in the treatment of coma caused by opium or morphine poisoning, and which enables the attendant physician, from the standpoint of the laity, to appear less brutal, and often save a patient from any marks of violence, as bruises arising from flagellation with the often used wet towel. As to the rationale, he says that if one is observant of the effects of a hypodermic injection of morphine, or dose per os, he notices the drowsy or sleeping patient rubbing his face now and then, as if there was an itching or tickling sensation about the nose and mouth. "This is due to the physiologic action of the drug, and when either is present to a marked degree, sleep is more or less disturbed, if not entirely abandoned. Look at the constant irritation produced by scratching, when asleep, in eczema, scabies, etc. How impossible sleep, in exaggerated pruritus ani, vulvæ vel scroti? I have practised tickling during the sleep of opium in poisonous doses. It acts like a charm, not only awakening, but angering nearly to the point of fighting. My advice, however, is to stop just short this side and give it in broken doses pro re nata. If it be a woman, so much the better, because of their delicate nervous poise making them better subjects; and I care not how degraded her morals, if she thinks her person threatened or any liberties taken, defence will come in the supreme effort of resistance. Further, I claim that this method of tickling has a very wide range of application, on account of the big percentage of ticklish persons."

Lager Beer in Acute Vomiting.—Louis Kolipinski (*Med. News*, Oct. 5, 1901) advocates the use of lager beer in cases of acute vomiting. The dark beer is preferable to the light. His attention was attracted to this remedy by a patient who evinced a craving for it. The results of its administration were most happy. The after-effects are soporific. It is certain in its action, and intolerance of it is rarely shown. The best results are obtained in women and in those who have not been in the habit of drinking alcohol. Small doses meet with the best results, *e. g.*, a wineglass repeated in half an hour.

RETROSPECTIVE DIETETICS.

How to Live Well and Keep in Training on $1 a Week.—Eustace A. Miles, "Amateur Racquet Champion of the World," writing in the *Sun* for October 27th, outlines, from his own experience during the last four years, a system of training which, he claims, costs not more than 25 cents a day, and may be reduced much lower, and does not require the hours of exercise incident to the regular course. The leading feature in this system is the exclusion of meat. In eating meat we are taking in the animal's waste products to add to our own, and so have just as much more to get rid of. That is why men trained on a meat diet have to give so much time to exercise; they have a great amount of uric acid to work out of the blood. It is for its strength-giving properties that we eat meat, and these are found in its albumen or proteid. By depriving milk of its fat and sugar, as well as its water, we obtain a powder containing about 80 per cent. of pure proteid. This powder the writer gets in the form of biscuits, variously flavored, or buys it in the simplest form, and makes up the biscuit himself. His menu, reduced to the simplest effective form, is as follows:

Breakfast—Four or five milk proteid biscuits; an apple.

Lunch—Graham bread and cheese; two or three milk proteid biscuits.

Tea—Two or three milk proteid biscuits.

Supper—One vegetable (spinach, for instance), four or five milk proteid biscuits.

Just before going to bed, two or three glasses of water and an apple.

Approximate Cost—Apples, 4 cents; milk proteid biscuits, 15 cents; graham bread and cheese, 5 cents; vegetables, 3 cents; total, 27 cents. If the biscuits are made up in large quantities, the cost of them can be reduced to about 5 cents a day.

On the milk proteid, with graham bread and apples, he has lived as cheaply as a dollar a week, and that while he was in hard training. He writes: "In my four years of experimenting with this diet I have never been out of training for a single day, and I have been doing hard work, both mental and physical, most of the time. I find that the great point in favor of my system is that I am fit all the time whether I have been taking exercise or not. . . . I can work ten hours a day without fatigue. Last year I coached about twenty pupils at Cambridge; I wrote over twenty books and a great many articles, and at any time I was ready to go in at a moment's notice and play a hard racquet match. . . . I find that the pleasure of eating comes now not so much from the proteid as from the fruit and vegetables which I add. For me the powder is decidedly digestible. . . .

"The individual must give the final verdict for his own case after a fair trial, but I fancy that it is almost a unique experience for a man who was once unhealthy to have had practically no illness for four years, to have been always in training, and seldom to have stopped his regular brain work the whole time.

"There have been those who have been in training persistently, but they have not worked hard with their brains. There have been those who have worked hard with their brains, but they have not been in persistent daily training—ready, I mean, to play a match or two matches in succession at an hour's notice. It remains to be seen how far my experience will prove to be a general one."

Feeding in Cases of Diphtheria.—Under ordinary circumstances (*Med. Record*) feeding by the mouth is to be preferred over all other methods, and milk will naturally constitute the principle article of food. Swallowing may, however, be rendered impossible on account of pain or faucial swelling, or regurgitation or vomiting may take place, or food gains entrance into the larynx in spite of every precaution, or attempts at feeding are attended with such struggling as to cause exhaustion. In the presence of any of these conditions some expedient must be resorted to to take the place of the usual method of administering food. Among the substitutes for mouth feeding are nasal feeding through a tube, rectal alimentation, and subcutaneous injection of sterile horse-serum. The indications for these are briefly discussed by R. G. Kirton in the *Lancet* of June 15, 1901. For nasal feeding a soft rubber tube is commonly employed, although occasionally a stiff tube becomes necessary. The food should be liquid, strained, warm, and administered in small quantities at intervals of four hours. Rectal feeding will have to be resorted to when mouth-feeding or nasal feeding does not meet the requirements of the case. A funnel and a rubber tube may be used for the purpose, the latter being introduced as high up into the rectum as possible. Here also food should be liquid, strained, warmed, and administered in small quantities at intervals of four hours. When a sufficient quantity of food cannot be administered by the mouth, through the nasal tube, or by way of the rectum, recourse may be had to subcutaneous injection of sterile horse-serum, from twenty to forty c.c. being thrown daily into the loose subcutaneous tissues of the trunk.

The Diet of Albuminurics.— Robin (*Bull. Gen. de Thérapeutique*, Feb. 15, 1901; *Am. Med.*) observes that diet exercises a great influence whatever may be the condition which gives rise to the appearance of albumin in the urine. Each patient presents a morbid personality which does not permit of any routine diet, whatever professional favor it may enjoy. The author seeks in each case for the diet most favorable to that patient and begins by an absolute milk diet as follows: From 7 o'clock in the morning to 10 at night he should take a pint of hot milk every 3 hours, in small mouthfuls, taking about half an hour to drink this quantity; 3 quarts will be ingested during the day. When tolerance has been established the quantity should be gradually increased until 4 or 5 quarts are taken during the day. Under the influence of this diet there will be at first in nearly all instances an increase in the quantity of albumin for the 24 hours. After this usually transient increase, the albumin falls until it reaches an amount which is almost stationary. At this point green vegetables, cooked fruits and bread are added to the dietary. Finally, eggs and meat are given if the milk-vegetable diet does not appear to influence the quantity of albumin. If the amount of albumin has been tested regularly, one will now be enabled to find the general diet that will cause the least elimination of albumin. In conclusion, Robin states: (1) During an absolute milk diet, the milk-vegetable diet or the milk-animal diet there is generally less albumin than when the dietary does not include milk; (2) albumin is increased when wine is substituted for milk; (3) eggs produce less albumin than a meat diet; (4) a diet of eggs and milk causes less albumin than absolute milk diet; (5) among the meats, veal and beef agree better with albuminuric patients than chicken and mutton; (6) fish always appears to increase the elimination of albumin; (7) the vegetables which cause the least elimination of albumin are potatoes, cauliflower and rice; (8) It is rare that the addition of bread to any diet will increase the elimination of albumin.

Benzine in Surgery.—Professor Franks (*Ctlbl f. Chir.*) has for some years employed benzine in cleaning the skin after the application of ointments; this renders the removal of the dried and often adherent masses extremely easy. The rubber adhesive plaster which sometimes adheres so firmly to the skin that when it is pulled off it causes not only a great deal of suffering but even actual excoriation and bleeding, can be removed painlessly if after raising one corner of the plaster a pledget of cotton soaked in benzine is pressed against the rubber surface. Benzine has a very feeble action upon pus bacteria. It is to be preferred to ether as a means of cleaning the skin because it is cheaper, does not produce the same cooling effect, and causes no irritation even of the tenderest surface.

—Crude petroleum, poured upon a burned surface and covered loosely with cotton, will subdue pain almost at once.

THE NEW YORK OBSTETRICAL SOCIETY.

Stated Meeting, held Tuesday, October 8, 1901.
The President, H. J. Boldt, M.D., in the Chair.

TUBAL GESTATION.

Dr. Egbert H. Grandin presented this case for the reasons:

1st: That it was considered by a colleague to be an instance of hemato salpinx with partial rupture and

2nd: Because a superficial examination of the uterine scrapings suggested chorionic villi, so that if he, Dr. Grandin, was correct in his assumption it might prove an instance of combined extra and intrauterine gestation.

He had seen the case in consultation with Dr. Albert Kohn and had secured the following history: Amenorrhea of about six weeks duration in a woman previously regular, although on occasions she had suffered from similar cessation of the menses without appreciable cause. She had had two attacks of abdominal pain (Sept. 13th and 21st) (never colicky) associated with spotting (not hemorrhage). Dr. G. had seen her on Sept. 22nd, had ruled out uterine gestation and because of the presence of a small mass near the right broad ligament had deemed the case suspicious enough to demand watching. She was removed to a hospital and examined under anæsthesia by Drs. Jarman, Kohn and himself without positive diagnosis. On Oct. 2nd she had a sharp attack of abdominal pain with slight bloody show. The following morning he had curetted the uterus and obtained scrapings which Dr. Coe considered chorionic villi. Again no absolute diagnosis was reached, but Dr. G. opened the abdomen, found enough free blood to float and had removed the specimen presented. The pathologist would be asked to decide the disputed points.

MULTILOCULAR CYST OF THE KIDNEY.

Dr. G. G. Ward, Jr.: The specimen presented is one of multilocular cyst of the kidney or as it is called by some authorities "large polycystic kidney." I removed it on June 1st last, from a patient with the following history:

Mrs. H., aged 49. Family history showed the existence of carcinoma. She had had two children, youngest 22 years old, and one miscarriage a number of years ago. About 4 years ago the menstruation became profuse and appeared every three weeks. She had suffered with headache and backache with neurotic symptoms for years for which she consulted me in the spring of 1900. At that time I found the uterus to be retroflexed and bound with adhesions as were also the enlarged ovaries. I operated in May, 1900, removing both appendages and breaking up the adhesions, did a ventral fixation. When I had her under the anæsthetic I discovered, on palpating the abdomen the presence of a smooth globular growth in the left hypochondriac region. The patient was very fat and it was difficult to palpate the growth, with the abdomen relaxed. By passing my hand into the abdominal cavity to the region of the tumor, I was able to appreciate its cystic character and its mobility as well as its probable nephritic origin. At that time it felt as large as a small orange. I did not think best to remove it then as the patient took the ether badly and I had not the necessary consent.

She made a prompt recovery from her laparotomy with complete relief from her backache and ovarian pain. I had her under close observation the following winter and it was not until December, 1900, that she began to have any symptoms referable to the cyst. From that time the symptoms gradually increased and they consisted principally of pain in the region of the stomach, rarely vomiting, but much nausea and severe headache. The neurasthenic symptoms were most pronounced until she was almost bordering upon hysteria. Inability to digest food of any sort, the formation of gas and a most obstinate constipation existed throughout. The bowels could only be moved with cathartics and repeated enemas. A marked pseudo membranous colitis developed in which large casts of the bowel were passed with nearly every stool. The tumor showed decided evidence of an increase in size which progressed with the growth, occupied the eighth as well as the left hypochondriacal and left lumbar regions. It was distinctly fluctuating and was becoming more fixed. Dr. Einhorn saw the case with me in consultation and advised that a nephrectomy be done as the only means of relieving the stomach symptoms which were becoming alarming.

There was no evidence of enlargement or disease of the other kidney and the urine passed averaged 30 ounces daily. The urine was of low sp. gr. 1010 and no albumen, sugar or casts, or evidence of cystitis. She was removed to P. G. Hospital and I operated on June 1st, choosing the abdominal routes on account of the size of the growth and its proximity to the abdominal wall. An incision 6 or 7 inches long was made in the left hypochondriacal region on the outer border of the uterus muscle. The growth was close against the abdominal wall with the splenic flexure of the colon and omentum closely adherent to it. These were stripped away and the capsule of the growth, which was the posterior peritoneum, was opened and after considerable difficulty the whole mass was enucleated. The pedicle was ligated with chromic gut and the growth cut away. After which the individual vessels and ureter were ligated separately and the whole closed over with peritoneum.

Time 1 hr. and 20 min. Rubber gloves used. Patient stood operation very well and was put to bed with pulse of 110.

She apparently made an uninterrupted recovery, her pulse gradually dropping to 80, and her highest temperature was 101½ and after the 5th or 6th it was between 98-99. She had no vomiting and the bowels moved readily. The abdominal wound healed by primary union.

She was out of bed on the 15th day. She continued to pass xxx-lx ounces of urine, no albumen (after 1st week). She returned home on the 20th day. Temp. 99 and pulse 86.

For ten days she was about her room or in a chair feeling that she was gradually regaining her strength and very cheerful over the outcome, when at the end of that time she had pain at the site of the operation and temp. 100-101. A thickening size of a lemon could be made out at the kidney site and an abscess was suspected. She was at once returned to the hospital 12 days after leaving it and under anæsthesia an incision was made to the left and parallel to the original incision so as to enter the mass posterior to the peritoneum. A large thick plastic exudate was formed at the site of the kidney and on reaching the centre 3 oz. of thick purulent material was evacuated. The cavity was irrigated and drained with gauze. For a few days there was apparent improvement with but very slight discharge from the wound. After which the temperature increased and it was thought advisable to enlarge the

wound to permit of better drainage. This was done ten days after the first incision was made, and a free opening established, but without improvement. A few days later fecal matter appeared through the opening and the condition of the patient gradually got worse until she died 56 days after the original operation and 35 days after returning home as convalescing. There were no symptoms of uræmia at any time, urine remaining normal. A post mortem examination showed that there was an area of gangrene involving all that portion of the colon that was adjacent to the tumor, and which had been stripped off the growth during its enucleation. The other kidney was found to be in a normal condition. Multilocular cysts of the kidney is a rare disease. It is almost always bilateral. Dickinson found only one case in 26 in which it was unilateral, Ritchie 2 in 88, Lejars 1 in 62, while Henry Morris found 4 in 7 cases. The average age was 45 years. It is considered hereditary by some authorities but not by others. Bar reports 3 cases in one family and Carl Beck found a similar case. Henry Morris has operated upon 5 cases (nephrectomy) and 2 were well seven years and three years after; this would apparently justify nephrectomy in these cases where the other kidneys were found to be normal by palpation or inspection through the incision.

PLACENTA DUPLEX OR BILOBA.

Dr. Geo. L. Brodhead: The specimen here presented is one of great interest and rarity because of the fact that what may be termed the supplementary placenta measuring 15x9.5 Cm. is of about the same size as the main placenta, which measures 14.5x11 Cm., to the centre of which the cord is attached. There is a space of about 5 Cm. between the two placental masses, which are connected by chorion and three fœtal vessels, one of which is of large size. The specimen was prepared by Dr. R. G. Tracy, and the sketch by Dr. R. H. Halsey, both members of the house staff of the New York Post Graduate Hospital, in the service of which the specimen was obtained. The fœtus depended fully as much upon one placenta as the other and it is the most perfect specimen which I have ever seen. The one point of clinical importance to be remembered in connection with these specimens is that the supplementary portion (usually called when much smaller than the main placenta, placenta succenturiata) may remain in the uterus and give trouble, hence the necessity of careful inspection of the placenta, immediately after its expulsion. If at the edge of the placenta, which seems to be complete, we find torn ends of vessels, we have good evidence that a portion of placenta has been left behind, and can search for it at once.

THE MAMMARY CHANGES OF MENSTRUATION.

J. Clifton Edgar, M. D.: I desire to present to the Society this evening an oil reproduction from Nature of the mammary changes produced incident to the menstrual epoch. The painting in question is not a selected one nor an unusual one and is taken from one out of a number of cases seen during the past ten years in 600 consecutive examinations for evidences of rape. Both in medico-legal cases and also in the diagnosis of pregnancy in private practice have I been impressed with the analogy between the changes in the nipple, primary areola, veins, and Montgomery's tubercles in the menstruating and the pregnant condition, the latter being limited to the first three months. In the illustration I desire to draw attention to the prominent veins, the darkening and œdema of the areola, the erection and congested nipple and the fact that a slight serous yellowish discharge caused dry scales to form in the orifices of the milk ducts. My observations in the above cases and from records kept on the subject in private practice leads me to conclude that the illustration is not an exceptional one by any means, and the condition especially among the upper classes in nulliparous women is rather the rule than the exception. Further that very often the mammary changes of the first third of gestation cannot be distinguished from those occurring in the premenstrual period of congestion; that in fact the mammary changes of early gestation are valueless even for an uncertain diagnosis of pregnancy.

A COMPARATIVE STUDY OF THE IMMEDIATE RECOVERY OF PATIENTS FOLLOWING VAGINAL AND TOTAL ABDOMINAL AND SUPRA-VAGINAL HYSTERECTOMIES INVOLVING IN ALL 130 CASES.

Dr. LeRoy Broun read this paper of the evening. It has frequently been said that statistics are of little value in determining the worth of any method of operating and, he believed, that there was much reason for such a widespread opinion since too many factors enter into the make-up of such reports to render them of much service to the operator seeking the best methods. A small percentage of deaths simply shows either the skill of the operator or an unusual run of fortunate cases, or both. Three years ago he was an ardent advocate of the vaginal route of operating, believing that the after-recovery of the patient was smoother and knowing that there are but few intra-pelvic growths that cannot be removed by this route. During this time and for two years previous this choice of route was adopted whenever it was possible to do so by Dr. Cleveland and himself at the Woman's Hospital. The results were excellent and apparently left nothing to be desired. During the two years past upon the same service this method has been unconsciously and gradually, to a large extent, replaced by the abdominal route, the object being to exercise as much conservatism as was possible. There were many staunch advocates of both methods of operating but it was not his object to bring together such arguments but to compare the immediate recovery of patients following the performance of these classes of operations. With this end in view he brought together all the hysterectomies performed during the last two years on two of the services in the Woman's Hospital. These have been arranged under the respective heads of Vaginal Hysterectomies, Complete Abdominal Hysterectomies, the cervix being removed, and Supra-Vaginal Hysterectomies, the cervix being left.

Vaginal Hysterectomies, 34 in number, were done after the following method. Hemostasis of the uterine arteries was obtained by the vasotribe or angiotribe. After complete separation of the uterus and the diseased adnexa, the broad ligaments were clamped off, one clamp on each side being used. Sterile gauze packing was loosely placed—well above the ends of the clamps—and lightly filling in the intervening space and the vagina. The clamps were removed at the end of twenty-four hours. The gauze packing was all removed by the seventh day, its removal being commenced on the fifth unless there was some indication to the contrary, such as a rise in temperature, when its removal was commenced earlier.

Complete Hysterectomies, 35 in number. The method here pursued was that adopted by the majority

of operators. The uterine arteries were ligated with catgut. The ovarian arteries were obliterated in the majority of cases by the Skene electric clamp; when this was not used they were tied off with catgut. The peritoneum was not closed, the raw surfaces being simply covered with sterile gauze, the free end of which protrudes from the vagina. This gauze was not disturbed until the fifth day unless there were indications. As in the vaginal hysterectomies it was all removed by the seventh day.

Supra-Vaginal Hysterectomies. The 54 operations brought together were done in the manner customary with the majority of operators. The ovarian and uterine arteries were secured on both sides with catgut. The anterior and posterior flaps were united with running catgut Lembert suture shutting off the stump of the cervix and leaving no raw surface exposed. The intervening dead space between the flaps was either drained for twenty-four hours by a small portion of gauze protruding through the cervical canal into the vagina, or no drainage was used.

The above description of the technique used was given in order the better to compare intelligently the results obtained from this comparative study.

A period of ten days from the time of operation has been considered ample to determine the exact course of recovery of the patient; within this time any secondary infection that might arise would have usually shown itself. From the tabulated records of each class of operation a composite chart was made, both of the temperature and pulse. No fatal terminations were included in the comparison because it was his desire to determine if there was any difference in the smoothness of the *recovery*, as evinced by the temperature and pulse record. For the information of any desiring to know the death rate the following was given:

36 Vaginal Hysterectomies	2 deaths	1 Insanity.	
		1 Sepsis.	
36 Complete " (abdominal)	1 death	1 Sepsis.	
59 Supra-Vaginal Hysterectomies	5 deaths	4 Sepsis.	
		1 Pneumonia.	

A careful study of the composite charts reveals a remarkable similarity in the curve of recovery of both the temperature and pulse in each class of operation. There was shown to be a slight difference in favor of the vaginal route; this operation, however, is practically the same from a surgical standpoint as the complete abdominal hysterectomies with the absence of the abdominal incision and sutures. This slight difference he attributed to the presence of the sutures in the abdominal wall, and not to any advantage derived from operating through the vagina. From the composite temperature and pulse curve there was only one conclusion to be drawn: that from this standpoint it is a matter of choice and individual preference with the surgeon, the patient making as even a normal recovery after one method of operating as from that following another. To further study the recovery after these operations he compared first the vaginal and complete abdominal hysterectomies as belonging to one class of what he called the open method, *i. e.*, drainage through into the vagina. Both have gauze drainage, which must be removed; one has, in addition, the abdominal wound, which is to the patient the most prominent feature of the operation. This wound, with its pain and frequent dressings, impairs the morale of the patient. Coming intimately in contact with the patients after these two classes of operations, the difference in their mental equilibrium impressed him strongly. After the gauze drainage was removed in both, the patient following the vaginal hysterectomy is thoroughly at ease, mentally and physically. The one following the abdominal hysterectomy has the wound in the abdomen uppermost in her mind and is anxious for some time. Of the two methods of operating he regarded that by the vagina the more difficult, and to obtain the same results as by the abdomen requires a larger and wider experience in operating. He referred of course, to complicated cases of adherent diseased adnexa and not to the simple removals of cancerous uteri. The abdominal route, with the assistance of a full view of the field of operation by the Trendelenburg position, and a complete isolation and cutting off of the intestines by gauze pads, was in his estimation much the safer method. Here adhesions are severed under the eye and injuries to attached intestines can be more intelligently avoided. In performing these two classes of operations it was not their custom to close the pelvic peritoneum in either. The raw surfaces are covered loosely by sterile gauze packing the free end of which extends into the vagina. It had never been their experience to find the adhesions between the plastic roof formed over the gauze and the intestines to give rise to any trouble, nor was he aware of any being reported by others.

Supra-Vaginal Hysterectomies. The above open methods involving, as they do, a necessary contracting granulating cavity, and the attendant foul discharge, while safe, was still at variance with the refinement of surgery, where primary union is sought and the avoidance of open suppurating wounds is expected. The recovery of patients from this class of operation was surgical in every respect; there was no suppurating cavity to close by contraction and granulation. The method had the additional advantage of leaving the cervix, which is said to be the seat of sexual feeling in women. The vault of the vagina is also kept intact and its elasticity maintained. He did not regard, however, the operation as materially shortened by leaving the cervix for in total hysterectomy the extra time consumed in removing the cervix is largely compensated for by the rapidity with which the drain of sterile gauze covering the denuded surface is introduced, this covering consuming less time than the closing of the peritoneal flaps over the cervical stump. A study of the composite temperature and pulse curves of the 54 cases of supra-vaginal hysterectomy showed a remarkable similarity in the recovery of patients from this class of operation as compared with the composite charts of those recovering from total abdominal and vaginal hysterectomies. In other words, while the method is more surgical, there is, however, no advantage gained in the ease of recovery so far as the temperature and pulse curve would indicate. Late ligature infection and the danger of septic absorption through the larger area of connective tissue exposed has been frequently urged against vaginal and total abdominal hysterectomies. This was not in accord with the experience at the Woman's Hospital. In those operations where it was considered safe to do so ligatures were replaced by the vasotribe, Skene's electric clamp, or the ordinary clamp. When ligatures were used No. 2 size was employed. That there must be some absorption was evident but in his experience it did not have an appreciable effect upon the temperature or pulse of the patient. A close study of the individual charts in both classes of operations bore out this statement: The open vault of the vagina precludes any retention of the secretions above. The true advantage of the supra-vaginal method was in the absence of any drain with its attendant painful re-

moval, the absence of resulting suppurating closing cavity, and the time gained in the discharge of the patient from surgical care. The leaving of the cervix while of distinct advantage is accompanied by some risk since if secondary infection occurs through its canal the effusion under the flaps now made septic cannot be reached except by a secondary operation. The dead space necessarily existing between the peritoneal flaps and the cervical stump had always been to him a source of concern. That the effusion here is usually taken care of by the patient is known to all and is shown by the even temperature curve of the 54 cases reported. That this satisfactory outcome was not always in accord with his personal experience was true. To avoid this secondary infection the habit of closing the cervical stump was customary although not universally adopted. The method of draining into the vagina by a small gauze wick protruding through the canal of the cervical stump, and which was removed at the end of twelve or twenty-four hours, he thought to be a questionable one, since it furnished a channel for infection of the subperitoneal space. For the same reason did he regard the leaving of the stump open as cut across liable to permit a secondary infection of the space above. The vagina, even if sterile at the time of operation, cannot remain so with the bloody serum escaping over the vulva. The wonder was that when we recalled Cohn's classical statement that "one germ under proper condition may give rise to more than a half a million of similar organisms within 24 hours," that with the draining of the cervical stump into the vagina secondary infection under the peritoneal flaps is not the necessary sequence instead of being only the occasional occurrence. When such an infection does occur it is fortunately in most instances of a mild type and the confined pus is liberated by gentle stretching of the cervical stump.

The writer then detailed the cases that terminated fatally, already referred to in the beginning of the paper. As a result he drew certain conclusions. It was noted that the percentage of mortality in the 36 cases of vaginal hysterectomy was 5½, that of the 36 cases of complete hysterectomy was 2¾, while that of the 59 cases of supra-vaginal hysterectomy was 8⅓. When it was recalled that the temperature and pulse record, as shown on the chart, of all cases recovering was practically the same in one class of operations as in the others; when it was further borne in mind that the vaginal and complete hysterectomies were with few exceptions performed on patients with purulent adnexa associated with dense adhesions, and in whom the possibilities of infection from the conditions present were greatest, the difference in the mortality became more striking than the percentage death rate showed. The deduction from the data was in direct opposition to Dr. Noble's who, in his finished article of four years ago on Hysterectomy for Fibroma gave from a collection of 345 cases of supra-vaginal amputations by five American operators a death rate of 4.9 per cent. He (Dr. Noble) also quoted Olshausen's table of 806 vaginal hysterectomies with a death rate of 5.6 per cent., as opposed to 520 total hysterectomies with a death rate of 9.6 per cent. He thought that if the different techniques of the various operators were known some reason for this difference might be seen. The question of draining the sub-peritoneal space of supra-vaginal hysterectomies through a dilated cervix was one in which operators were not yet in thorough accord. The usual method of those who advocate drainage of this space was to insert through the dilated, or longitudinally divided, cervical stump a gauze wick which was removed in 24 or 48 hours after the operation. That this drainage through the cervix was a bad practice he was personally convinced. All of the five deaths from supra-vaginal hysterectomy with the possible exception of one were caused by sepsis; 3 of these cases could not have become septic from the pathological conditions present. Of the 2 remaining, one had in addition to the fibromyoma a pyosalpinx which was unruptured, and the other had a retroverted uterus with pyosalpinx. Here there was no rupture in removal; even if ruptured there was every evidence from the history that the pus was sterile. In all the fatal cases the sub-peritoneal space was drained by the gauze wick through the cervix. There was no other conclusion but that through the drainage channel the infection traveled, and this was in keeping with the literature on the subject, chiefly that coming from the Johns Hopkins Hospital. Fortunately in the large majority of instances in which drainage was carried out no infection occurred. Miller, in his bacteriological study of the cultures made from the interior of the uterus and of the pus from diseased ovaries and tubes, reports, in the Johns Hopkins Bulletin, the following results: In 44 cases of hysterectomy mostly for pelvic inflammatory disease the cultures from the interior of the uterus were *all* negative. In 51 cases of pyosalpinx, ovarian and pelvic abscess the cultures were negative in all but one; in this the gonococci were found. During the past six months in all cases of supra-vaginal hysterectomies it was the custom in their service to close the cervical stump with catgut sutures before uniting over it the anterior and posterior flaps of the peritoneum. Up to the present there had been no secondary infection.

A review of the various facts brought out in his study lead him to the conclusion that

I. While the finished result of a supra-vaginal hysterectomy was most satisfactory the operation was, however, marred by the possibility of a secondary infection, at times terminating fatally. When this infection does occur it can be reached only by some secondary operation.

II. The chances of this infection occurring are greater when the sub-peritoneal space is drained through the canal of the cervical stump, or when the canal is left open. There is every reason to close the stump as offering the best results.

III. Total Abdominal Hysterectomy, though not such a finished operation as the Supra-Vaginal, is, however, one in which there is less likelihood of any secondary complications, and though objectionable on account of the suppurating cavity to be closed by contraction and granulation, yet offers to the patient a surer means of uninterrrupted recovery. This conclusion, while at variance with Olshausen's large collection of cases in which he gives a 5.6 per cent. death rate for Supra-Vaginal, and a 9.6 per cent. for Total Hysterectomies is, however, the only one to be drawn from the collection brought together.

—Quinquaud's sign of chronic alcoholism is thus described by Aubry: The patient holds up his hand with the fingers spread apart. The examiner then presses upon the patient's finger tips with his own, using moderate firmness. If the patient is an alcoholic there will be observed in a few seconds a grating or crackling of the phalanges as though the bones were rubbing each other. It is more marked in men than women.

MISCELLANY.

—That man is generous to a fault who never corrects it.

—Acute rheumatism has frequently been observed to follow diphtheria.

—Medicines given by the rectum or vagina should be given in twice the dose as by the mouth.

—A raw egg, taken immediately, will carry down a fish bone that cannot be got up from the throat.

—A common remedy to "bring out" the eruption in measles is a strong tea made from the leaves of the common holly.

—The wise physician never gives an absolute prognosis of life or death; and, above all, never names the hour of probable dissolution.

—In Helen Keller, the deaf, dumb and blind student at Radcliffe, the instructors in English are beginning to believe there is hidden an author of the first rank.

—The pain in the knee from hip disease is familiar to all. According to Freiburg (*Cleveland Med. Journal*), pronated and flat foot is also a frequent cause of pains in the knee.

—Dr. Champlin says: "When in doubt as to whether you have a case of gonorrhea in the female remember that the pus of specific vaginitis is alkaline. Litmus paper will decide the diagnosis."

—A stone-cutter employed on the new medical building at Cornell University dropped dead, a few weeks ago, on account of arsenical poisoning, the arsenic being contained in the stone on which he was working.

—The exhibition of giants recently held at Rouen, France, included a Frenchman, nine feet and two inches in height, who is betrothed to an English lass perpendicularly elongated to eight feet and three inches.

—Borate of sodium mixed with milk is said to be the best general antidote for poisons after the stomach has been emptied. For vegetable poisons, permanganate of potassium in 1 per cent. solution. For carbolic acid, vinegar.

—According to Meriel, in the *Journal de Médecine de Paris*, a piece of pumice stone, boiled and kept in an antiseptic, is most effective to render the surgeon's hands aseptic and "give him a new skin." It is far superior to the nail brush.

—Wm. Osler, M.D., in the *Sun*, of January 27, 1901, says: "A new school of practitioners has arisen which cares nothing for homeopathy and less for so-called allopathy. It seeks to study rationally and scientifically the action of drugs, old and new."

—At a recent meeting of the trustees of the University of Chicago it was voted to permit the enrolment of women in the Rush Medical College. One reason given for the taking of this step is the demand for medical instruction on the part of women wishing to become trained nurses.

—M. Nodon has described a new and highly interesting method of obtaining the X-rays. It appears that if ordinary light falls upon an electrified aluminum plate, preferably upon one electrified negatively, the light penetrates the plate and issues from the other side in the form of X-rays.

—Orris fingers or Dentarnola are designed to take the place of the old-fashioned infants' coral and assist in teething. The juice, of which a small amount is absorbed in sucking, is said to be an excellent digestive. Half a million of these fingers are sent from Leghorn to Germany and Austria yearly.

—Mlle. Bottard entered the Salpêtrière, Paris, in 1840, to take charge of the ward for females suffering from incurable nervous diseases. For 40 years she has labored among them, but will retire shortly with a pension. The cross of the Legion of Honor was pinned upon her breast by the late President Faure.

—The negro's color, it appears, is not "skin deep," after all. In this country there is a tannery where human skins are occasionally tanned "just to oblige customers," and the workman who does it says that negro skin, in tanning, loses a very thin, black, crackly cuticle, and after that cannot be told from a white skin.

—A doctor may throw away his cigar or put his pipe in his pocket before entering the patient's room, but her ipecac headache is much aggravated by the smell of dead tobacco smoke, and she says to her aunt: "Don't let that man in here again when I have one of these headaches or I shall be sick all over the bed."

—*Electricity* gives an account of two operations that have been performed by means of two powerful electromagnets (after radiographic location of the foreign bodies), introduced through tracheotomy openings, whereby nails in the bronchi of children were successfully removed. The method is ingenious, and, we believe, entirely novel.

—Dr. Louis Knapp, a practising physician of St. Louis, has separated himself forever from his wife and four children to nurse Dong Gong, a Chinese leper. A quarantine is being built by the city authorities, where the doctor and his patient will remain secluded from the world. The doctor has taken his library with him and purposes devoting his time to the study of leprosy.

—An exposition dealing with all the means of preventing sea-sickness was held at Ostend during August and September. It comprised apparatus for diminishing the effects of the motion of a vessel; plans of special vessels designed to avoid movements producing sickness; apparatus for holding the viscera rigidly in place; plans for ventilation and renewal of the air of cabins; deodorizing agents; hygiene of sea-sickness; remedies, etc.

—A commercial journal of this city has recently made an investigation with the object of ascertaining the difference between the death-rate in the twelfth ward, where the "plutocrats" live, and the thirteenth, inhabited by the "lower classes." The former has sixty-one dwellers to the acre, the latter 539. The figures show that, whether one takes the deaths of children under five or of the general population at all ages, the comparison between the two wards is unfavorable to the twelfth ward. The writer concludes that "the poorer classes, eating plainer and more nutritious food, seem to prosper constitutionally better than the eaters of rich foods."

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A Monthly Journal of Medicine, Surgery and the Collateral Sciences.

Vol. XXIX., No. 12. NEW YORK, DECEMBER, 1901. 10 cents a copy. $1.00 per annum.

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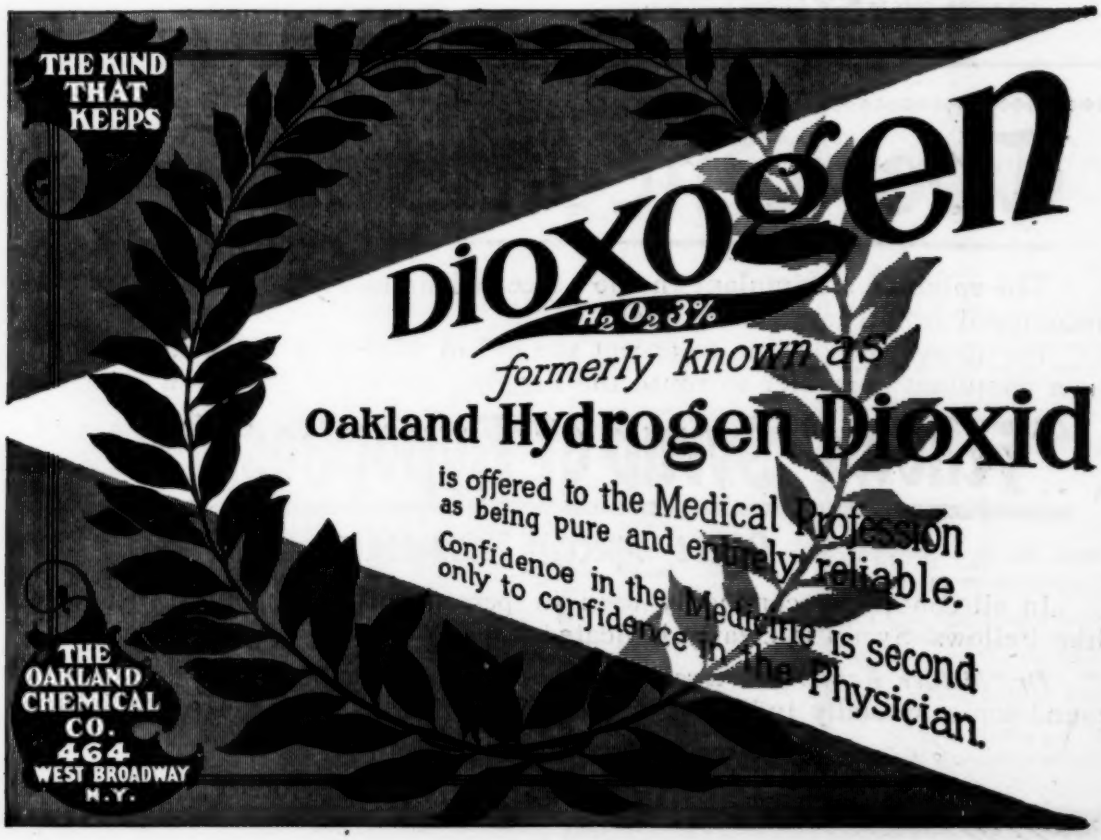
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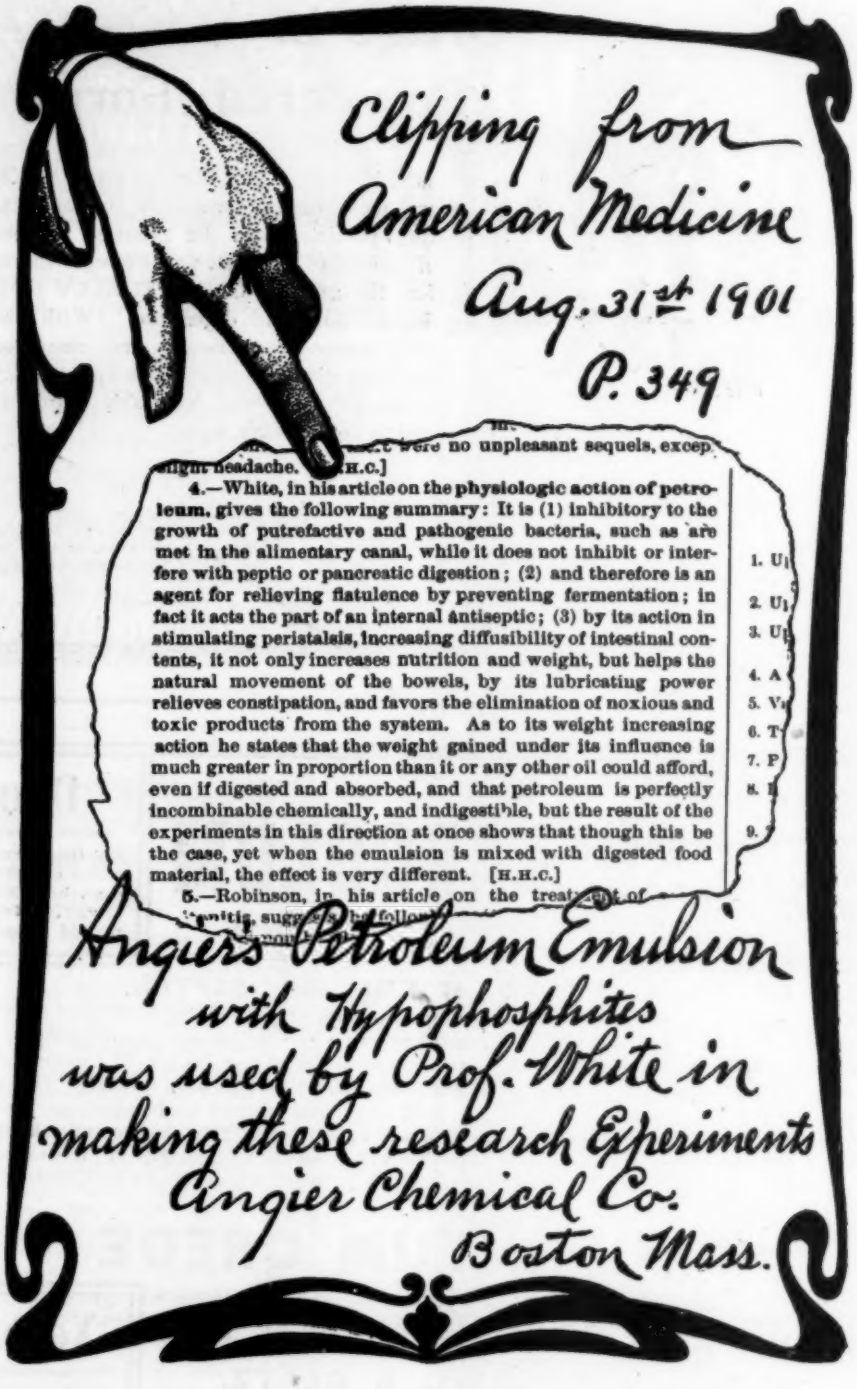

Clipping from
American Medicine
Aug. 31st 1901
P. 349

...were no unpleasant sequels, except slight headache. [H.H.C.]

4.—White, in his article on the physiologic action of petroleum, gives the following summary: It is (1) inhibitory to the growth of putrefactive and pathogenic bacteria, such as are met in the alimentary canal, while it does not inhibit or interfere with peptic or pancreatic digestion; (2) and therefore is an agent for relieving flatulence by preventing fermentation; in fact it acts the part of an internal antiseptic; (3) by its action in stimulating peristalsis, increasing diffusibility of intestinal contents, it not only increases nutrition and weight, but helps the natural movement of the bowels, by its lubricating power relieves constipation, and favors the elimination of noxious and toxic products from the system. As to its weight increasing action he states that the weight gained under its influence is much greater in proportion than it or any other oil could afford, even if digested and absorbed, and that petroleum is perfectly incombinable chemically, and indigestible, but the result of the experiments in this direction at once shows that though this be the case, yet when the emulsion is mixed with digested food material, the effect is very different. [H.H.C.]

5.—Robinson, in his article on the treatment of ...

1. U...
2. U...
3. U...
4. A...
5. V...
6. T...
7. P...
8. ...
9. ...

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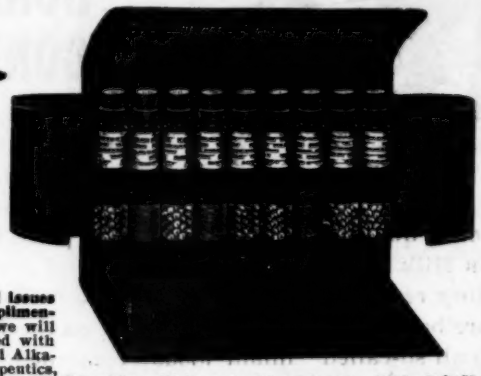

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WINE: 10 grains to 1 ounce Malaga. CAPSULES: 4 grains each.

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Clinical experiments show that pure Creosote combined with Morrhuol (recognized as superior to cod liver oil) is always tolerated, and gives the happiest results in the early stages of tuberculosis and bronchial catarrh.

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Dose, 1 to 2 Pills.	

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INGLUVIN A Powder—Prescribed in the same manner, doses and combinations as pepsin.

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Food for the sick requiring to be leavened is made perfectly wholesome and more nutritious by the Royal Baking Powder than by any other vesiculating agent.

SELECTIONS.

Dr. A. Blodgett, Benecia, Cal., used Sanmetto in a case of a man seventy-eight years of age, recovering from La Grippe, troubled with frequent micturition and chronic nephritis. The result of the agent was completely satisfactory. He has used it since in cases of irritable bladder, with pleasing results.

The Arrowsmith Arch Prop is an improvement on the old form supports. It is made of German silver and is light and spongy. It will not rust and is arranged so that there is free ventilation.

Rat Destruction and the Bacillus of Danysz.— As a result of his experiments, Bronstein confirms the investigations of Danysz regarding the pathogenetic qualities of the latter's bacillus with respect to rats, and claims that suitable cultures of the organism properly fed to the animals would result in a general slaughter.

Use of Milk Tickets Forbidden.— Because they believe the continued use of milk tickets to be unsanitary, the health officers of Wilkesbarre, Pennsylvania, have notified all milkmen to discontinue them and use coupons instead. Arrests will follow if the order is not obeyed.

Vaccination.—Dr. James Patterson, Canada, who was placed in charge of the outbreak of smallpox in the West, reports that of 1,500 cases the disease was most prevalent among the unvaccinated French half-breeds, much less prevalent among the Indians, who were fairly well vaccinated, and entirely absent from Doukhobor and Gallician villages, the inhabitants of which had been vaccinated in childhood, and also recently on board ship.

Why Swedes are Tall.—Statistics just published show that the Swedes are the tallest people in the world. Swedish conscripts show a steady increase in height since 1841. This development is thought due in no small measure to the diminution of drunkenness in Sweden.

Worthy and Seasonable.—When the temperature of the body is above normal, conditions are especially favorable for germ development. It is a matter of every-day observation that a simple laxative is often sufficient to relieve the most threatening situation and prevent the most serious complications. To reduce fever, quiet pain, and at the same time administer a gentle laxative and strong tonic is to accomplish a great deal with a single tablet. We refer to Laxative Antikamnia and Quinine Tablets. Among the many diseases and affections which call for just such a combination, we might mention la grippe, influenza, coryza, colds, chills and fever, dengue and malaria, with their general discomfort and great debility. We would also especially call attention to the wide use of Antikamnia and Codeine Tablets in chronic or semi-chronic pulmonary disease. The following concise statement from Dr. W. B. Morford, No. 1521 Tasker street, Philadelphia, is worthy of note. He says: "I find antikamnia in combination with codeine to be almost a specific in the coughs of phthisis. In a recent case of 'old-fashioned' or catarrhal consumption, I obtained most satisfactory relief for the patient, from a most distressing cough, with Antikamnia and Codeine Tablets."

The New Pathologic Laboratory of Oxford University was opened October 12.

A Home for Male Inebriates is about to be opened by the Salvation Army near Hadleigh in an old house which will hold sixty patients, and with sufficient grounds about it to occupy them in gardening and other outdoor work.

A Corrector of Iodism.—Dr. W. H. Morse reports (*Southern Clinic* for May) success in the use of Bromidia, which he says has proved corrigental of Iodia. Discussing his results he says: Vomiting is so frequent and troublesome a symptom in many diseases, besides irritation and inflammation of the stomach, as to demand much practical attention from the physician. So, although the causes are so various, and although we are actually treating a symptom, for this symptom Bromidia is remarkably effectual. We have all employed the remedy for colic and hysteria, two disorders where nausea and vomiting are are pronounced as they are persistent, and almost the first evidence of relief is shown by the disappearance of these disagreeable symptoms. It is quite as efficacious for the nausea and vomiting from ulcer or cancer of the stomach. There is nothing that will more quickly check the vomiting, and the hypnotic effect is quite in order.

The Physicians' Ozone Syndicate wish to direct the especial attention of the principals of schools and colleges possessing a chemical laboratory to their Ozone Generating Apparatus. It is as valuable in the chemical laboratory as to the physician. The doctors have felt keenly the need of a practical portable Ozone Apparatus, which they could conveniently transport to the house of patients. The Physicians' Ozone Syndicate for three years have been experimenting on Ozone Apparatus in Europe, with the object of inventing an apparatus that, while small, would generate all the Ozone necessary to treat the hundreds of diseases in which this gas is most beneficial. The best chemists and electricians in France, Germany and England have lent their aid, and have perfected an Apparatus, which, together with the storage batteries, weighs only 25 pounds. Write to the J. S. Smith Co., Baltimore, Md., for circulars, mentioning this paper.

Beta-Eucain Acetate, a New Form of Eucain.— Very recently the Schering Factory have prepared Eucain in a new form, that of an acetic acid salt. It is superior to the hydrochlorate in that it is very readily soluble in water, even to the extent of 33 per cent. In other respects it behaves exactly like the hydrochloric acid salt; thus the addition of an alkali causes precipitation of the free base, and it can be sterilized by boiling without undergoing decomposition.

Its anesthetic power is equal to that of Beta-Eucain Hydrochlorate and cocain.

Poisonous symptoms of any kind were never observed, even when, for various reasons, it was administered very freely. Nor did it have any deleterious influence upon the corneal epithelium.

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Finally, it is of interest to the busy practitioner that the price of the Beta-Eucain Acetate is half that of cocain.

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2. Bactericidal—potently and promptly.
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With best wishes, I remain, Yours truly, J. A. G. HANCOCK, M.D.

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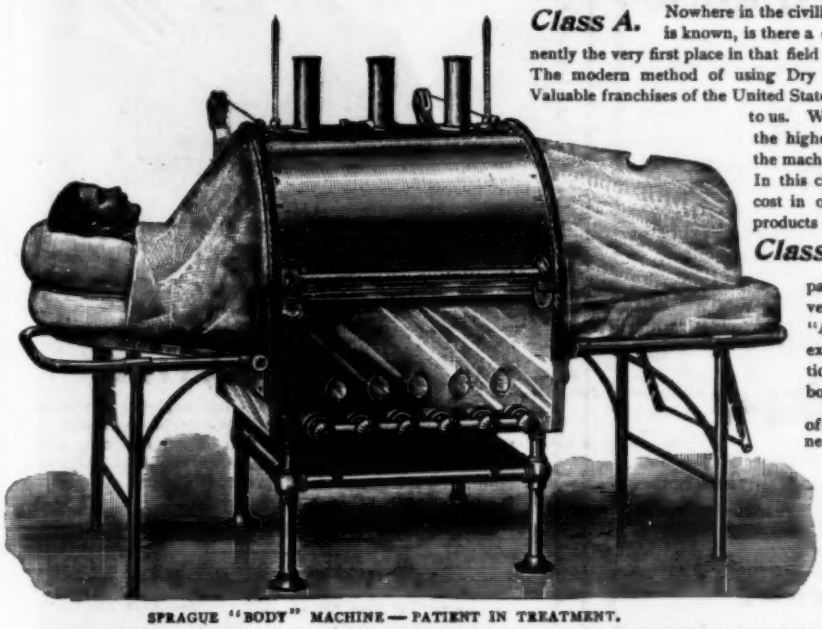

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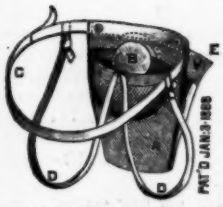

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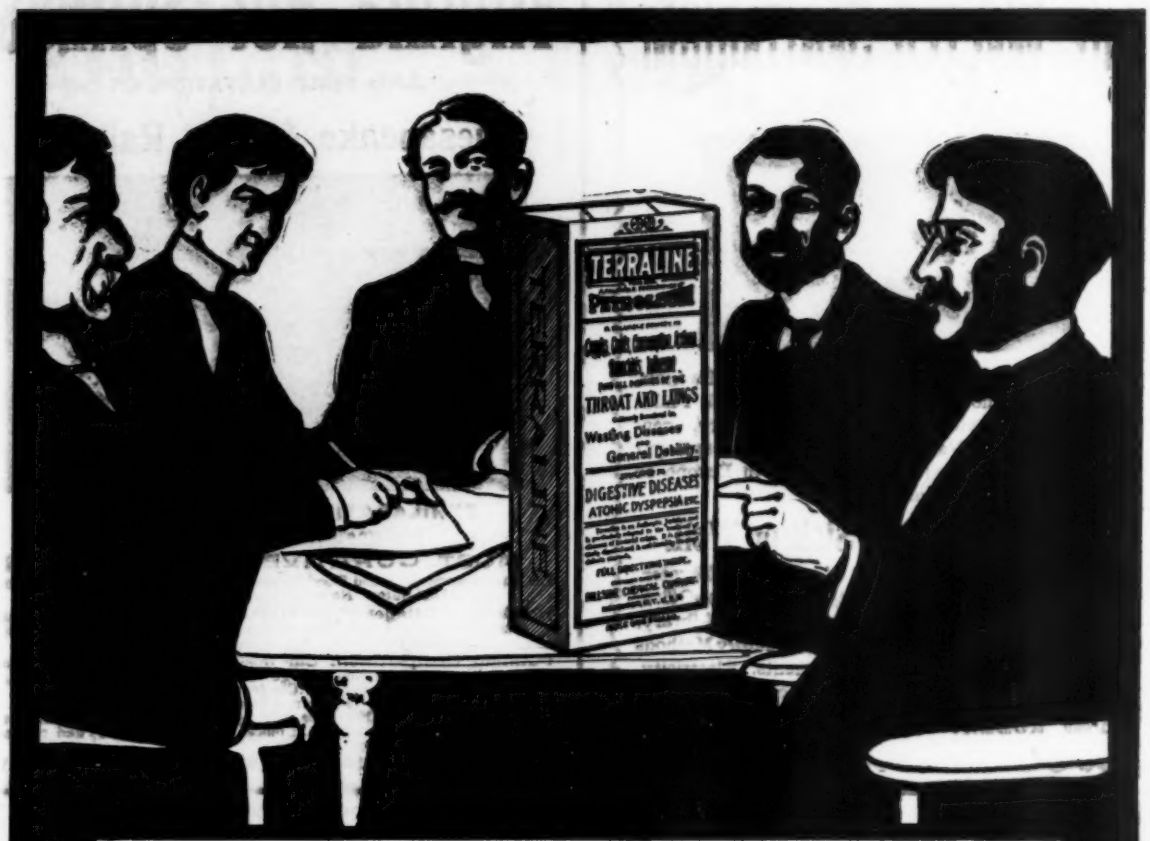

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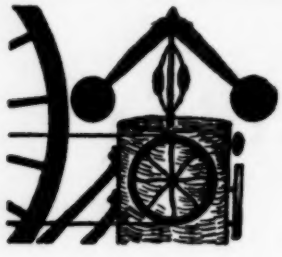

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ARSENAURO IS OF GREAT VALUE IN FUNCTIONAL NEUROSES, DISTURBED METABOLISM AND FAULTY NUTRITION. IT ARRESTS THE PROCESS OF DEGENERATION AS COVERED BY THE BROAD TERM SCLEROSIS.

AN ALTERATIVE WHICH "BUILDS UP" WHILE IT "ELIMINATES."

PUSH TO THE POINT OF SATURATION IN EACH INDIVIDUAL PATIENT AND ADMINISTER FOR A PROTRACTED PERIOD.

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